
United States Circuit Court of Appeals

FOR THE FOURTH CIRCUIT.

HOPE NATURAL GAS COMPANY,

Petitioner,

vs.

FEDERAL POWER COMMISSION,

CITY OF CLEVELAND,

CITY OF AKRON, and

PENNSYLVANIA PUBLIC UTILITY COMMISSION,

Respondents.

SUPPLEMENT TO BRIEF OF PETITIONER.

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1. RESPONDENT THE FEDERAL POWER COMMISSION'S "ORDER REDUCING RATES," DATED MAY 26, 1942.

**UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION**

Commissioners { Leland Olds, Chairman, Claude L. Draper, Basil Manly and Clyde L. Seavey. John W. Scott dissenting in part.

May 26, 1942

City of Cleveland,
vs.
Complainant

Docket No. G-100

Hope Natural Gas Company,
Defendant

City of Akron,
vs.
Complainant

Docket No. G-101

Hope Natural Gas Company,
Defendant

Pennsylvania Public Utility
Commission,
Complainant

Docket No. G-127

vs.
Hope Natural Gas Company,
Defendant

In the Matter of
Hope Natural Gas Company

Docket No. G-113

ORDER REDUCING RATES

Upon consideration of the complaints, answers, petitions, and orders previously entered in these proceedings, the evidence of record, the briefs and oral arguments, and the Commission having on this date entered and

issued its Opinion No. 76 which is hereby incorporated by reference and made a part hereof;

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The Commission finds that:

- (1) Hope Natural Gas Company (hereinafter designated as the "Company") is a corporation organized and existing under the laws of the State of West Virginia;
- (2) The Company purchases and produces natural gas within the State of West Virginia;
- (3) The Company transports, delivers and sells large quantities of the natural gas referred to in Finding (2) to The East Ohio Gas Company and The River Gas Company at points on and along the interstate boundary between the States of West Virginia and Ohio, which gas is so transported and sold at wholesale for the purpose of resale for ultimate public consumption at points outside the State of West Virginia;
- (4) The Company transports, delivers and sells large quantities of the natural gas referred to in Finding (2) to The Peoples Natural Gas Company and Fayette County Gas Company at points along the interstate boundary between the States of West Virginia and Pennsylvania, which gas is so transported and sold at wholesale for the purpose of resale for ultimate public consumption at points outside the State of West Virginia;
- (5) The Company transports, delivers and sells quantities of the natural gas referred to in Finding (2) to The Manufacturers Light and Heat Company at points within the State of West Virginia, which gas is transported and sold to such purchaser at wholesale for the purpose of resale for ultimate public consumption at points outside the State of West Virginia;
- (6) The transportation and sale by the Company of natural gas at the several points of delivery to the several purchasers and for the purposes stated in Findings (3), (4) and (5) constitute, in each in-

stance, the transportation and sale of natural gas in interstate commerce within the purview of the Natural Gas Act, and the rates charged and collected by the Company for the natural gas so transported and sold are subject to the jurisdiction of the Federal Power Commission:

- (7) The evidence of the reproduction cost new of the Company's property used and useful in the production, transportation, delivery and sale of natural gas to the interstate wholesale purchasers named above (as of December 31, 1938) as presented by the Company in these proceedings, is hypothetical, conjectural and inherently fallacious and cannot be considered as having probative value in the determination of the allowable rate base;

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- (8) The evidence of the trended "original cost" of the Company's property (as of December 31, 1938) as presented by the Company is basically erroneous and cannot be considered as having probative value in the determination of the allowable rate base;
- (9) The Company's restated "original cost" of its property (as of December 31, 1938) erroneously includes items and amounts in excess of the actual legitimate cost thereof as such cost is controlled by fundamental principles of cost determination, and as defined in the Federal Power Commission's Uniform System of Accounts and by decisions of this Commission;
- (10) Equity and justice require the elimination of such erroneously included items and amounts referred to in Finding (9) in determining the rate base upon which the Company is entitled to earn a fair rate of return;
- (11) The actual legitimate cost of the Company's property, exclusive of distribution property, property used to transport coke-oven gas, and unoperated acreage was \$51,957,416 as of December 31, 1940;

- (12) The actual existing depletion and depreciation in the Company's property, exclusive of distribution property, property used to transport coke-oven gas, and unoperated acreage, was \$22,328,016 as of December 31, 1940;
- (13) The actual legitimate cost of the Company's property, less actual existing depletion and depreciation, exclusive of distribution property, property used to transport coke-oven gas, and unoperated acreage, was \$29,629,400 as of December 31, 1940;
- (14) The Company's unoperated acreage is useful or imminently useful and is necessary for the continued and efficient production of natural gas and its cost should be included in the rate base;
- (15) The actual legitimate cost of such unoperated acreage was \$566,105 as of December 31, 1940; and is a reasonable amount to be included in the rate base for fixing future rates;
- (16) Materials and supplies and cash working capital in the amount of \$2,125,000 are necessary for the continued and efficient operation of the Company's interstate natural gas business and should be allowed in the rate base;
- (17) The additional capital expenditures (less increases in depletion and depreciation reserves) in the three-year period, 1941-1943, will result in an average increase in net actual legitimate cost for that period of \$1,392,021; and such sum should be allowed in the rate base for the determination of reasonable future rates;

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- (18) For the purpose of determining just and reasonable rates for the future, the rate base represented by the actual legitimate cost of the Company's property used and useful in the production, transportation and sale of natural gas in interstate commerce (Finding (13)), plus unoperated acreage, working capital and future net capital additions, is \$33,712,526;
- (19) The fair rate of return for the Company is not more than 6½% per annum; and \$2,191,314 is the

maximum fair annual return which the Company is entitled to earn on the rate base;

- (20) The operations for 1940, as adjusted, are a proper basis for fixing future rates;
- (21) The operating revenues from interstate sales were \$19,296,755 for 1940;
- (22) The proper credit to the Company's operating expenses for the excess profits from the gasoline and butane extracted from its gas by the affiliated Hope Construction & Refining Company is \$185,105 and for steam and boiler fuel furnished the affiliate is \$119,592, or a total of \$304,697 for the determination of future rates;
- (23) Reasonable and proper allowances for operating expenses (including amortization of reclassification and rate case expenses) and after allocation of costs to local West Virginia sales, miscellaneous gas revenues, and the amount of tax required under lawful rates, are as follows:

Operating Expenses	\$16,272,934
Miscellaneous Gas Revenues	(83,275)
Allocation of Costs to Local West Virginia Sales	(2,694,075)

Total Deductions from
Interstate Revenues \$13,495,584

- (24) The rates charged and received by the Company for the transportation and sale of natural gas in interstate commerce for resale for ultimate public consumption are unjust, unreasonable, and excessive, and therefore unlawful, to the extent of \$3,609,857 annually, determined as follows:

Revenues from Interstate Sales	\$19,296,755
Operating Deductions	13,495,584

Net Operating Income from
Interstate Sales 5,801,171

6½% Return on Interstate
Rate Base 2,191,314

Excess \$ 3,609,857

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- (25) The total allowable cost of all interstate services of the Company is \$13,495,584 plus \$2,191,314 for a fair return, or \$15,686,898;
- (26) The average rates and charges per m.c.f. of the Company, after reflecting the reductions herein-after ordered, will be just and reasonable;

Therefore, the Commission *orders* that:

- (A) The rates charged and received for the transportation and sale of natural gas by Hope Natural Gas Company in interstate commerce for resale for ultimate public consumption shall be decreased to reflect a reduction, on an annual basis, of not less than \$3,609,857 in the operating revenues of that Company;
- (B) The following just and reasonable average rates per m.c.f. shall be charged the five customer companies in the future:

*Average Rate
Per M.c.f.—Cents*

The East Ohio Gas Company	29.5
The Peoples Natural Gas Company	28.5
Fayette County Gas Company	28.5
The Manufacturers Light and Heat Company	28.5
The River Gas Company	35.0

- (C) The Hope Natural Gas Company shall file, on or before July 1, 1942, new schedules of rates and charges for the ~~transportation and sale of~~ natural gas in interstate commerce to its five customer companies for resale for ultimate public consumption, which shall reflect not less than the reduction ordered in paragraph (A) and shall be the average rates per m.c.f. ordered for the respective companies in paragraph (B);
- (D) The new schedules of rates and charges ordered in paragraph (C) shall be effective as to all bills based on meter readings made on or after July 15, 1942;

(E) On and after the effective date of the new schedules of rates and charges, filed and made effective in accordance with paragraphs (C) and (D), the Hope Natural Gas Company shall cease and desist from making, demanding or receiving any rates and charges other than those ordered in these proceedings until changed by order of this Commission.

By the Commission.

(Signed) LEON M. FUQUAY,
Secretary.

2. RESPONDENT THE FEDERAL POWER COMMISSION'S "FINDINGS AS TO LAWFULNESS OF PAST RATES," DATED MAY 26, 1942.

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION

Commissioners { Leland Olds, Chairman, Claude L. Draper, Basil Manly and Clyde L. Seavey. John W. Scott dissenting in part.

May 26, 1942

City of Cleveland,
Complainant
vs.
Hope Natural Gas Company,
Defendant

} Docket No. G-100

City of Akron,
Complainant
vs.
Hope Natural Gas Company,
Defendant

} Docket No. G-101

Pennsylvania Public Utility
Commission,
Complainant
vs.
Hope Natural Gas Company,
Defendant

Docket No. G-127

In the Matter of
Hope Natural Gas Company

FINDINGS AS TO LAWFULNESS OF PAST RATES

Upon consideration of the City of Cleveland's complaint and amendment, the Company's answers, the petitions and orders previously entered in these proceedings,

the evidence of record, the briefs and oral arguments, and the Commission having on this date entered and issued its Opinion No. 76 and order, which Opinion is hereby incorporated by reference and the appropriate portions are made a part hereof;.

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The Commission finds that:

- (1) The City of Cleveland raised the issue of the lawfulness of the rate charged The East Ohio Gas Company by Hope Natural Gas Company, and requested this Commission to find the just, reasonable and lawful rate from June 30, 1939, to the date of this determination, as an aid to State regulation;
- (2) The Commission has jurisdiction and authority to make such findings which are in the public interest;
- (3) Hope Natural Gas Company is a corporation organized and existing under the laws of the State of West Virginia;
- (4) Hope Natural Gas Company purchases and produces natural gas within the State of West Virginia;
- (5) Hope Natural Gas Company transports, delivers and sells large quantities of the natural gas referred to in Finding (4) to The East Ohio Gas Company at points on and along the interstate boundary between the States of West Virginia and Ohio, which gas is so transported and sold at wholesale for the purpose of resale for ultimate public consumption at points outside the State of West Virginia;
- (6) The transportation and sale of natural gas by Hope Natural Gas Company stated in Finding (5) constitute the transportation and sale of natural gas in interstate commerce within the purview of the Natural Gas Act, and the rates charged and collected by Hope for the gas so transported and sold have been subject to the exclusive jurisdiction of this Commission since June 21, 1938;

- (7) The evidence of reproduction cost new of the Hope Company's property used and useful in the production, transportation, delivery and sale of natural gas to its five interstate wholesale purchasers (as of December 31, 1938), as presented by the Company in these proceedings is hypothetical, conjectural and inherently fallacious and cannot be considered as having probative value in the determination of the allowable rate base;
- (8) The evidence of the trended "original cost" of Hope Company's property (as of December 31, 1938), as presented by the Company, is basically erroneous and cannot be considered as having probative value in the determination of the allowable rate base;
- (9) The Hope Company's restated "original cost" of its property (as of December 31, 1938) erroneously includes items and amounts in excess of the actual legitimate cost thereof as such cost is controlled by fundamental principles of cost determination, and as defined in the Federal Power Commission's Uniform System of Accounts and by decisions of this Commission;

—3—

- (10) Equity and justice require the elimination of such erroneously included items and amounts referred to in Finding (9) in determining the rate base upon which the Company is entitled to earn a fair rate of return;
- (11) The actual legitimate cost of Hope Natural Gas Company's property, excluding distribution property, property used to transport coke-oven gas, and unoperated acreage, was \$51,019,583 for 1939 and \$51,957,416 for 1940;
- (12) The actual existing depletion and depreciation in Hope Natural Gas Company's property was \$21,737,823 for 1939 and \$22,328,016 for 1940, and the resulting actual legitimate cost, less actual existing depletion and depreciation, and excluding distribution property, property used to transport coke-oven gas and unoperated acreage, was \$29,281,762 for 1939 and \$29,629,400 for 1940;

- (13) The unoperated acreage was useful or imminently useful and the actual legitimate cost of such acreage in the amounts of \$567,152 for 1939 and \$566,195 for 1940 should be included in the rate bases;
 - (14) Materials and supplies and cash working capital were necessary in the amounts of \$2,100,000 for 1939 and \$2,125,000 for 1940, and should be allowed in the rate bases;
 - (15) For the purpose of determining what rates were just, reasonable and lawful since June 30, 1939, the average rate base represented by the actual legitimate cost of Hope Natural Gas Company's property used and useful in rendering interstate service (Finding (12)), plus the cost of unoperated acreage and the necessary working capital, was \$32,326,398 for 1939, \$32,134,710 for 1940, and \$33,712,526 since 1940;
 - (16) A rate of return of 6½% was liberal for the period of June 30, 1939, to date;
 - (17) The actual operations for 1939 and 1940 are the reasonable and proper bases for determining lawful rates in those years, and 1940 operations, as adjusted, are the reasonable and proper basis for determining lawful rates since 1940;
 - (18) The operating revenues from interstate sales were \$14,866,894 for 1939 and \$19,296,755 for 1940;
 - (19) The proper credit to Hope Natural Gas Company's operating expenses for the excess profits from the gasoline and butane extracted from its gas by its affiliate, Hope Construction & Refining Company, and for steam and boiler fuel furnished the affiliate, was \$352,516 for 1939, \$304,697 for 1940 and \$304,697 annually since 1940;
- 4—
- (20) Reasonable and proper allowances for operating expenses (including amortization of reclassification and rate case expenses) and after allocation of costs to local West Virginia sales, miscellaneous gas revenues and the amount of tax required under lawful rates, are as follows:

Findings as to Lawfulness of Past Rates

	<u>1939</u>	<u>1940</u>	<u>Since 1940</u>
Operating Expenses	\$14,242,454	\$15,775,195	\$16,272,934
Miscellaneous Gas Revenues	(68,695)	(83,275)	(83,275)
Allocation of Costs to Local West Virginia Sales	(2,328,110)	(2,694,075)	(2,694,075)
Total Deductions from Interstate Revenues	\$11,845,649	\$12,997,845	\$13,495,584

- (21) The rates charged and received by the Company for the transportation and sale of natural gas in interstate commerce for resale for ultimate public consumption were unjust, unreasonable and excessive, and therefore unlawful, to the extent of \$920,029 for the year 1939, \$4,210,154 for the year 1940, and \$3,609,857 since 1940 (on an annual basis), determined as follows:

	<u>1939</u>	<u>1940</u>	<u>Since 1940</u>
Revenues from Interstate Sales	\$14,866,894	\$19,296,755	\$19,296,755
Operating Deductions	11,845,649	12,997,845	13,495,584
Net Operating Income from Interstate Sales	3,021,245	6,298,910	5,801,171
6½% Return on Interstate Rate Base	2,101,216	2,088,756	2,191,314
Excess	\$ 920,029	\$ 4,210,154	\$ 3,609,857

- (22) The total required revenue for all interstate service of the Company was \$13,946,865 for 1939, \$15,086,601 for 1940 and \$15,686,898 annually since 1940;
- (23) Cost, conditions and characteristics of service show that the just, reasonable and lawful rates for natural gas sold by Hope Natural Gas Company in interstate commerce to The East Ohio Gas Company for resale for ultimate public consumption were those required to produce compensation in the amount of \$11,528,608 for 1939, \$11,507,185 for 1940, and \$11,910,947 annually since 1940;

—5—

- (24) The rates charged and received by the Hope Natural Gas Company for the transportation and sale of natural gas in interstate commerce to The

East Ohio Gas Company for resale for ultimate public consumption were unjust, unreasonable, excessive, and therefore unlawful to the extent of \$830,892 during 1939, \$3,219,551 during 1940, and \$2,815,789 on an annual basis since 1940.

By the Commission.

(Signed) LEON M. FUQUAY,
Secretary.

3. RESPONDENT THE FEDERAL POWER COMMISSION'S "OPINION NO. 76," TOGETHER WITH CONCURRING OPINION OF COMMISSIONER MANLY AND PARTIALLY DISSENTING OPINION OF COMMISSIONER SCOTT, DATED MAY 28, 1942.

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION
OPINION NO. 76

City of Cleveland,

Complainant

vs.

Hope Natural Gas Company,

Defendant.

Docket No. G-100

City of Akron,

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vs.

Hope Natural Gas Company,

Defendant.

Docket No. G-101

Pennsylvania Public Utility
Commission,

Complainant

vs.

Hope Natural Gas Company,

Defendant.

Docket No. G-127

In the Matter of

Hope Natural Gas Company

Docket No. G-113

APPEARANCES

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Hon. John J. D. Preston

Hon. E. B. Pennypacker

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OPINION

BY THE COMMISSION:

These proceedings grew out of complaints filed by the cities of Cleveland and Akron, Ohio, and were enlarged by the Commission's Order of October 14, 1938, for an investigation of the reasonableness of all the interstate wholesale rates of Hope Natural Gas Company under the provisions of the Natural Gas Act.¹

The cities of Cleveland and Akron, Ohio, filed with the Commission complaints alleging that the price charged by Hope Natural Gas Company to East Ohio Gas Company for natural gas was unreasonable and unduly discriminatory. The Pennsylvania Public Utility Commission also filed a complaint asserting that the rates charged by Hope Natural Gas Company to Peoples Natural Gas Company, Fayette County Gas Company and the Manufacturers Light and Heat Company were unlawful.

The three complaint proceedings and the proceeding instituted by the Commission were consolidated for purposes of hearing. Upon petition, the Public Service Commission of West Virginia, the State of West Virginia and the City of Toledo, Ohio, were permitted to become interveners in the consolidated proceedings.

Hearings were held, pursuant to order and notice, at intervals during 1940 at which Hope presented its case in-

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chief. After written and oral argument the motion of the cities of Cleveland and Akron for an immediate order reducing rates to East Ohio Gas Company was denied for insufficiency of evidence. Additional hearings were conducted during the first half of 1941 and concluded in July. The evidence presented during the 43 days of hearings

¹ The term "interstate wholesale" when used in this Opinion means the sale of natural gas in interstate commerce for resale for ultimate public consumption for domestic, commercial, industrial, or any other use.

covered all issues and embraced nearly a gross of extensive exhibits and about 7,000 pages of transcript. Each party to these proceedings was cognizant of the issues and was afforded ample opportunity to present evidence. Comprehensive briefs have been filed and the Commission, sitting *en banc*, has heard extensive oral argument.

JURISDICTION

The jurisdiction of the Commission was not challenged in these proceedings. The facts show and counsel for Hope Natural Gas Company have stipulated that Hope transports and sells natural gas in interstate commerce to five companies for resale for ultimate public consumption.² Hope is a natural gas company within the purview of the Natural Gas Act and we may proceed with the determination of the lawfulness of its interstate wholesale rates. See *Illinois Natural Gas Co. v. Central Illinois Public Service Co.*, 314 U. S. 498; *Federal Power Commission v. Natural Gas Pipeline Co.*, 315 U. S.

—3—

OPERATIONS OF THE COMPANY

The Hope Natural Gas Company was organized in 1898 in West Virginia and is a subsidiary of Standard Oil Company (N. J.). Its property, composed of approximately 5,000 miles of pipe lines and 3,000 gas wells in West Virginia, is an integral part of the interconnected Standard

² Hope's pipe lines interconnect with those of its five wholesale customers and the gas which it sells to those companies flows in interstate commerce without interruption and is resold in Ohio and Pennsylvania. Hope sells and delivers gas (1) to the East Ohio Gas Company and the River Gas Company at several points along the West Virginia-Ohio state boundary; (2) to the Peoples Natural Gas Company and the Fayette County Gas Company at points on the West Virginia-Pennsylvania state boundary; and (3) to the Manufacturers Light and Heat Company in northern West Virginia, which transports and sells such gas in Pennsylvania for ultimate public consumption.

Oil System which serves the Appalachian area with natural gas. The major customers of Hope are its affiliates, The East Ohio Gas Company and The Peoples Natural Gas Company, which serve a large area including Cleveland, Akron, Youngstown, Massillon, Canton, Pittsburgh and Altoona. Hope also sells gas to its affiliate, The River Gas Company, and to two non-affiliates, Fayette County Gas Company and The Manufacturers Light and Heat Company. Hope produces about one-third of its total annual gas requirements and purchases the remaining two-thirds under more than 300 contracts.³

In 1940, Hope handled about 74,000,000 m.c.f. of gas and sold: (1) more than 40,000,000 m.c.f. to East Ohio Gas Company; (2) about 10,000,000 m.c.f. to Peoples Natural Gas Company; (3) more than 2,000,000 m.c.f. to Manufacturers Light and Heat Company; (4) approximately 860,000 m.c.f. to Fayette County Gas Company; (5) nearly 400,000 m.c.f. to River Gas Company; and (6) more than 11,000,000

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m.c.f. to local consumers in West Virginia. The remainder totaling about 9,000,000 m.c.f. was gas lost or used in Company operations.

Hope's natural gas is processed by an affiliate, Hope Construction & Refining Company, for the purpose of extracting the natural gasoline and butane. Another affiliate, the Domestic Coke Corporation, sells its by-product coke-oven gas to Hope for use as boiler fuel in Hope's main compressor station.⁴

³ Hope purchases coke-oven gas from the affiliated Domestic Coke Corp. and transports the gas to Hastings for use as compressor station fuel. It is agreed that the property and costs relating to that transaction be eliminated and the equivalent m.c.f. of natural gas be substituted at Hastings compressor station at a cost of 22¢ per m.c.f.

⁴ Hope Natural Gas Company in December 1939 merged the former Reserve Gas Company, but by agreement between counsel that property and income have been segregated and excluded for the purposes of these proceedings.

CORPORATE AND FINANCIAL HISTORY

Hope Natural Gas Company is a large, seasoned and successful utility, and during its corporate history of more than forty years its capital structure has been solely in the form of common stock. Since 1908, it has been a subsidiary of Standard Oil Company (N. J.) and all of its outstanding capital stock, having an aggregate par value of approximately \$28,000,000, is owned by Standard.

During Hope's existence it has paid more than \$108,000,000 in dividends, \$11,000,000 of which were stock dividends. From 1898 to 1941 the average annual cash dividends to stockholders exceeded 20% on the average annual amount of capital stock issued for cash or other assets.

The Company presented its balance sheet as an exhibit, which shows an owner's equity in assets, at the end of 1938, of more than \$33,000,000, comprising \$28,000,000 of

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capital stock and \$5,000,000 of surplus. This equity is represented in assets principally by gas plant in the net amount of \$15,500,000, Government bonds of \$11,000,000, and cash and investments of \$5,500,000. The \$15,500,000 net investment per books in the Company's gas plant, including distribution property, is actually about \$8,000,000, because the Company had previously transferred \$7,500,000 from depletion and depreciation reserves to earned surplus.⁵

⁵ Source: Ex. No. 41, pp. 10 and 21; Ex. 61, p. 3.

Plant, Dec. 31, 1938, per books (including Distribution Property of about \$2,795,000)	\$56,213,454
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Depreciation and depletion reserve, per books	40,633,562
---	------------

15,579,892

Less adjustments in 1934, (\$5,901,000) and in 1908 (\$1,650,000) transferring these amounts from depreciation and depletion reserve to earned surplus

7,551,000

Net Investment

\$ 8,028,892

We will now proceed to the pragmatic determination of the lawful rates, within the ambit of our statutory authority.

RATE BASE

The Hope Company claimed a rate base of \$66,000,000 and calculated that it was earning a rate of return of about 3% from its interstate business on that base. The claimed rate base was molded from an estimate of the cost to reproduce the property less observed depreciation, plus working capital. The derived rate of return was based upon the Company's presentation of revenues and expenses averaged for 1937, 1938 and 1939.

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The Company's Estimates of Reproduction Cost and Trended "Original Cost"

The estimate of the Company approximated \$97,000,000 for the cost to reproduce the property. That result was reached by applying unit prices for material and labor to an inventory and adding about 17% to that total for undistributed construction costs.

Many hypotheses were employed for this reproduction-cost estimate and each of them disregards the development and experience of the Hope Company. Quoted prices for pipe and other material, rather than actual current prices, were used and obsolete compressor station equipment was priced by applying quoted prices for modern equipment. The record demonstrates that the quoted price for pipe is not in fact the price that is paid. Actual prices are the result of negotiation. The calculated construction costs exceeded the actual pipe line construction costs experienced by the Hope Company during a recent period. This appraisal of the cost to reproduce the system included \$14,000,000 for undistributed construction costs or overheads which ignored the experience of the Company with

respect to such costs and the fact that Hope has charged all overhead expenditures (with minor exceptions) to operating expenses in the past. It is improper and inequitable to capitalize items formerly charged to operating expenses, and in rate-making the inclusion of such expenses in the rate base would compel the rate payer to reimburse the Company more than once for the same item. We will discuss this point extensively in connection with the Company's claimed "original cost."

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The Company's hypothetical reproduction cost estimate is nearly double the actual legitimate cost of the property, although, as the record shows, the greater part of the property was constructed during the high-price period of 1917-1930.

After full consideration of the estimate of reproduction cost new presented by the Company, we find that it is not predicated upon facts and that it is too conjectural and illusory to be given any weight in these proceedings. See *Railroad Commission v. Pacific Gas & Electric Co.*, 302 U. S. 388, 397; *Re Canadian River Gas Co. et al.*, F. P. C. Op. 73.

The Company also presented a trended "original cost" estimate which exceeded \$105,000,000. The objective of that estimate, according to the witness, was to reflect changes in price levels and to indicate what the original cost of the property would have been if 1938 material and labor prices had prevailed throughout the whole period of the piecemeal construction of the Company's property since 1898. At the outset this estimate includes a multi-million dollar error because the trend factors were applied to an inflated "original cost" claim of the Company, which we will discuss fully under the subject of actual legitimate cost. The evidence discloses fundamental errors in the trending process used. No consideration was given by the Company's witness to the great advances in the science of con-

struction and the improvement in the quality of pipe and equipment in the natural gas industry, during the long history of the Company.

Hope Company's own experience demonstrates that

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man-hour productivity has increased greatly throughout the years during which the Company's property was constructed. Yet the Company's witness gave no consideration to that fact, but utilized high 1938 hourly wage-rates to price the slower, obsolete construction methods of the past on a time basis. It is undisputed that service qualities of pipe, including increased tensile strength and reduced weight, have been improved in recent years. Pipe is sold on the basis of weight and the heavier and inferior pipe in the Hope System was priced at 1938 prices for modern pipe, in disregard of the known improvements in the product. Another basic defect in the trending was the adoption of the arithmetical average of the cost per ton of smaller sizes of pipe when 95% of the cost of pipe in the Company's transmission lines represented pipe having greater diameters. That such a pipe trend is not representative is obvious. Furthermore, the 1938 prices upon which the trends were based, being representative of only slightly more than 1% of the total plant, furnished no dependable yardstick.

In the light of the evidence the conclusion is inescapable that the Company's trended "original cost" estimate is not founded in fact, but it is basically erroneous and produces irrational results.

The reproduction cost studies and the so-called trended "original cost" studies were the typical, hypothetical conjectures which have plagued rate regulation for more than forty years. The actual development and experience of the Hope Company were ignored. In addition, assumption upon assumption as to material and labor costs, and magni-

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fied imagination as to overheads were indulged in lavishly. The results have no probative value and accordingly must be condemned.⁶

The estimates of reproduction cost and trended "original cost" lack reliability, so we turn to the evidence of actual cost of Hope's property.

Actual Legitimate Cost

The Company and the Commission's Staff submitted exhibits and supplied testimony on the cost of gas plant used in the Company's interstate service. The Company claimed that cost, as of December 31, 1938, amounted to \$69,735,638, the Staff indicated a figure of \$51,984,453, while the books disclosed an investment of approximately \$52,730,666.⁷

Hope's vouchers, books and records are adequate for examination, analysis and audit. Hope kept complete records of its expenditures throughout its existence, so no estimates are required to ascertain the actual cost.

⁶ Under the recent decision of the Supreme Court involving the Natural Gas Act in *Federal Power Commission v. Natural Gas Pipeline Co.*, 315 U. S. . . . and the decision of this Commission in *Re Chicago District Electric Generating Corporation*, 39 P. U. R. (N. S.) 263, involving the companion part of the Federal Power Act, such estimates of reproduction cost and trended "original cost" need not have been admitted in evidence.

⁷ The book cost of the interstate facilities is derived as follows:

Total Plant Investment per books		\$56,213,454
Less:		
Distribution Property	\$2,795,083	
Unfinished Construction	81,392	
Intangible Plant	30,186	
Property Used to Transport Coke-oven Gas	576,127	\$3,482,788
Plant Investment, per books, of interstate Facilities		<u>\$52,730,666</u>

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Table A appearing on page 11 compares the cost of facilities used in interstate service as claimed by the Company, as shown by the books of account, and according to our findings, as of December 31, 1938.

*The Company's Estimated
"Original Cost"*

The first step in the Company's determination was the taking of an inventory. The inventory units were then priced at estimated cost, including arbitrary overheads. The amounts shown as plant costs by the books were ignored, except for the purpose of aiding in estimating unit costs. As is shown by Table A, the Company's method resulted in a claimed net increase of \$17,004,972 over the amount recorded as investment in the interstate properties on its books of account. The Company claims, in other words, that its books fail to show the true cost of such properties in that amount. The items of that amount which are identifiable represent expenditures previously charged to expense accounts. Some of the alleged expenditures were not incurred at all. For example, claimed interest during construction of \$632,000 was not actually paid. Obviously, to the extent that the plant costs are understated, if they are, the difference must represent charges to other accounts, particularly expense accounts, in the books.

The claimed additional costs are divisible into two groups—one relating to properties constructed by the Company, and the other relating to property acquired from other utilities. Table B on page 12 shows the general nature of the \$17,004,972.

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TABLE A

Cost of Plant as of December 31, 1938

Account	Claimed by Company	Amt. Shown by Books*	Allowed
Natural Gas Production Plant			
Natural Gas Producing Lands	\$ 2,370	\$ 3,320	\$ 3,320
Natural Gas Producing Leaseholds	1,684,636	1,331,101	1,599,005
Rights of Way	701,556	529,460	645,391
Other Land and Land Rights	22,126	24,602	21,008
Field Measuring and Regulating Station Structures	40,773	28,617	21,139
Other Prod. System Structures	291,872	213,164	191,189
Gas Wells: Construction	17,783,637	4,366,934	4,089,478
Equipment	8,168,192	7,885,581	7,610,510
Field Lines: Construction	4,056,915	3,028,847	3,622,489
Equipment	8,244,966	7,929,927	7,671,252
Field Meas. and Reg. Station Equip- ment	267,099	249,842	184,385
Drilling and Cleaning Equipment	604,936	543,740	595,693
Other Production Equipment	89,102	45,031	75,532
Total Production Plant	41,958,180	26,180,106	26,333,391
Transmission Plant			
Land	164,105	158,122	162,912
Rights of Way	442,394	491,784	391,243
Compressor Station Structures	1,725,945	1,661,573	1,441,882
Trans. Meas. and Reg. Station struc- tures	11,988	11,399	8,207
Other Transmission System Struc- tures	11,509	7,348	6,776
Mains	15,180,596	14,413,516	14,132,075
Compressor Station Equipment	8,313,531	7,979,316	7,683,672
Trans. System Meas. and Reg. Equip- ment	26,713	29,463	17,616
Other Transmission System Equip. ment	23,042	15,188	21,016
Total Transmission Plant	25,899,823	24,767,709	23,865,399
General Plant			
Land and Land Rights	98,188	126,678	96,981
Structures and Improvements	247,427	237,323	225,888
Office Furniture and Equipment	195,311	239,989	178,683
Transportation Equipment	148,540	161,431	142,315
Stores Equipment	9,166	3,321	5,107
Shop Equipment	114,706	63,169	104,185
Laboratory Equipment	1,070	1,003	1,003
Tools and Work Equipment	4,634	200,761	4,545
Communication Equipment	347,629	249,121	248,976
Miscellaneous Equipment	1,172	20,484	1,148
Total General Plant	1,195,753	1,303,280	1,008,831
Gas Plant for Interstate Service	69,653,756	52,251,095	51,207,621
Unoperated Acreage	681,882	479,571	584,382
Wells and Field Lines not in Service			192,150
Total Gas Plant (Exclusive of Dis- tribution Plant and Property used to transport Coke-oven Gas)	\$69,737,638	\$52,730,666	\$51,984,153

* For comparative purposes the amounts in this column have been classi-
fied (without change in the total) in accordance with our Uniform System
of Accounts for Natural Gas Companies. The Company's study is on this
basis also.

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TABLE B

<i>Constructed Property</i>	
Inventory, Transfer and Correcting Adjustments	\$(1,821,581) ^s
Direct Material and Labor Costs not Capitalized	13,580,814
Unloading, Hauling and Warehouse Handling Costs	383,454
Indirect Field Costs	396,141
Overhead Costs	2,866,414
<hr/>	
Total Claimed Adjustments to Constructed Property	\$15,405,242
Claimed Adjustments to Properties Purchased from Other Utilities	1,599,730
<hr/>	
Total	\$17,004,972

The Company's cost study was made by an engineering firm. The witness for the Company, a valuation engineer, indicated clearly that he was not concerned with the Company's past practices in determining costs and in determining expenses. To him it was of no concern whether an item had been charged to expense and the cost thereof recouped in rates, or even whether an item represented an expense under the wide discretion of management allowed by accepted principles of accounting. The realities as to past practices and determinations received no consideration. Evidently the object of the study was to determine the maximum cost which could be assigned to the properties under any theory or principle of cost determination, regardless of the fact that the Hope Natural Gas Company had been in business more than forty years and had made determinations in its regular course of business as to which of its expenditures constituted investment in plant and which constituted operating expenses.

The first proposed adjustments to book cost (\$1,821,581), reflecting inventory, transfer and correcting adjust-

^s Parentheses indicate decrease.

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ments, will be discussed hereinafter.

The second adjustment (\$13,580,814) represents items previously charged to expense and not capitalized in the books or items which cannot be identified in the books and records and, therefore, may not have been incurred at all. The amount of \$13,580,814 may be subdivided as follows:

Well Drilling	\$11,279,554
Other Direct Material and Labor Cost	996,543
Labor Costs in Laying Mains, Constructing Compressor Stations, etc., During Years 1918 to 1922, Inclusive	1,295,953
Leasehold Cost	8,764
Total	<hr/> \$13,580,814

The largest item of claimed additional cost relates to labor and drilling equipment used in drilling wells. The additional amount claimed (\$11,279,554) is associated with 2,633 wells. It is the Company's contention that these expenditures, which were charged to operating expenses when incurred, should now be included in the rate base.

It was the consistent practice of the Hope Company up to 1923 to charge the cost of drilling wells to operating expense. This likewise was the general practice of the natural gas industry. It followed the well-established practice of extractive industries of charging items to expense which in less venturesome enterprises were ordinarily charged to the plant account.⁹ The theory underlying the practice was that additional wells were constantly needed to keep

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the Company in business, hence the cost incurred was not for the purpose of adding to the property but rather for the purpose of maintaining the business. The evidence

⁹ *Re Hope Natural Gas Co.*, 1921 E 418, 439-440; *United States v. Roden Coal Co.*, 39 Fed. (2d) 425; *Marsh Fork Coal Co. v. Lucas*, 42 Fed. (2d) 83; *Commissioner of Internal Revenue v. Brier Hill Collieries*, 50 Fed. (2d) 777.

shows that the Natural Gas Association of America opposed a provision in the first uniform system of accounts for natural gas companies issued by a State commission which required capitalization of well drilling expenditures. That Association took the view that such expenditures were necessary operating expenses. In fact, Hope did not change its practice in this respect until it was required to do so by the provisions of the system of accounts for natural gas companies promulgated by the Public Service Commission of West Virginia, effective in 1923. It is significant that West Virginia's system of accounts did not require and evidently did not permit the Hope Company to re-account for its past expenditures, but merely required a change as to treatment of well drilling expenditures beginning with its effective date.

The Company's practice of charging well drilling expenditures to operating expenses, therefore, conformed to the principles and practices of the time. One of the obvious purposes of keeping books of account is to inform management so that proper managerial decisions may be made. One of the first functions of management, of course, is to endeavor to fix prices so that revenues will cover operating expenses and yield a profit. Where it is the general practice of the industry to treat certain expenditures as operating expenses, it is manifest that such expenditures will be considered as expenses in its rate negotiations and determinations.

If there were any doubt about this matter, it would be

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dispelled by the action of the Hope Company itself. In 1921 the Hope Company was involved in a rate proceeding before the Public Service Commission of West Virginia. It was a proceeding in which Hope sought to increase its rates. In that proceeding the Company claimed well drilling and other expenditures now sought to be included in the rate base, as operating expenses. They were allowed

as such by the Public Service Commission of West Virginia.¹⁰ No further proof is needed to show that Hope considered the expenditures in question as operating rather than plant items, in its efforts to recover full operating costs plus a profit in the conduct of its business.

No greater injustice to consumers could be done than to allow items as operating expenses and at a later date include them in the rate base, thereby placing multiple charges upon the consumers.

The other direct material and labor costs of \$996,543 appear, to the extent they can be identified, to have been charged in the past to maintenance and repairs.

The adjustments for cost of labor in laying mains, constructing compressor stations and other property totaling \$1,295,953, and the adjustment of \$8,764 to the cost of leases are treated later.

In addition to well drilling expenditures, other items now sought to be included in the plant accounts which were previously included in expenses, if they were incurred at all (the Company's method makes it impossible to determine whether or not certain of the expenditures were incurred), are as follows:

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Unloading, Hauling and Warehouse	
Handling Costs	\$ 383,454
Indirect Field Costs	396,141
Other Overhead Costs	2,866,414

As to these items, here again the Company followed a consistent practice, and the practice of the industry, in charging such expenditures to expense accounts. It was not customary for the natural gas industry or other extractive industries to load the plant accounts with overhead items, such as shown above. Even under the relatively definite requirements of the Commission's present Uniform System of Accounts, considerable discretion and latitude

¹⁰ *Re Hope Natural Gas Co.*, P. U. R. 1921 E 418, 433, 439-440.

are allowed management in accounting for overhead expenditures. Accordingly, the allowance of the items mentioned would not represent the correction of past errors, but merely the substitution of present judgment for the judgment exercised at the time the expenditures were incurred, which covered a period of forty years. The important rule is that once discretion has been exercised, subsequent action must be consistent with the decisions previously reached. There is no settled principle controlling the determination of the exact amount of overheads, if any, which should be applied to the cost of plant items.

Besides claiming large additional costs for property constructed by the Company, Hope claims a net sum of \$1,599,730 representing alleged additional original cost of property acquired from other utilities. These properties, acquired chiefly from affiliated utilities, were accounted for by Hope at the cost to it, which was the cost to the predecessors. Hope now claims that the costs accounted for as

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plant by the predecessors were in error in that the predecessors followed the same allegedly erroneous practices that Hope followed. It, therefore, claims that well drilling costs in the amount of \$1,364,087, other direct material and labor costs of \$286,173, unloading, hauling and warehouse handling costs of \$18,557, indirect field costs of \$38,519, other overhead costs of \$122,043, and leasehold costs of \$6,388, all of which, if incurred at all, the predecessors had charged to expense, should be added to its plant investment figure and included in the rate base.¹¹ Since these predecessor companies kept their books and records exactly as did Hope, in accordance with the general practice of the industry, the proposed adjustments, except for leasehold

¹¹ There were also inventory, transfer and correcting adjustments which decrease the book cost by \$236,037, and they are discussed hereinafter.

costs, are in the same category as the items which Hope now attempts to restate in its plant accounts.

In the course of its study, the Hope Company determined that considerable property which was recorded in its plant accounts, was no longer in existence. In other words, there were unrecorded retirements. Offsetting the unrecorded retirements were certain items of existing property for which the Company found no costs in its plant accounts. More than likely, certain of the latter merely represented the failure to identify items which were determined to be unrecorded retirements. The net effect is a substantial adjustment (\$1,821,581 for constructed property; and \$232,930 and \$3,107 for acquired property) for unrecorded retirements and miscellaneous corrections. The adjustment is not controverted and should be made.

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*Impropriety Of Including In Rate Base
Items Previously Charged To Expense*

It has been shown that the Company's claim of additional plant cost over and above what is recorded on its books as plant investment represents largely expenditures previously charged to expense in accordance with the discretion of management. The Company, in other words, now impeaches its books and its former financial statements to regulatory bodies, tax authorities, investors, and others. It impeaches the decisions of management made at the time the expenditures were incurred. It does this in spite of the fact that its past decisions conformed to its own consistent practices, until required to change them by a regulatory agency, and to the general practice of the natural gas industry, as well as the extractive industry. The adjustments proposed, therefore, do not reflect the correction of errors in the past. Errors as to these items were not made.

The past determinations of the items constituting plant investment were deliberate, conscious acts on the part of

management at the time of the transactions. A decision obviously must be made when an expenditure occurs as to whether it represents an investment in plant or an expense. There must also be some finality to these decisions.¹² If

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they are treated as expenses at one time and as plant investment subsequently, chaos in rate-making and in corporate finance will prevail. It is no answer that many of the expenditures in question were incurred prior to the effective date of a prescribed uniform system of accounts. The Company kept plant and expense accounts throughout its history and conformed to the general business practices of the industry and like business institutions. It was evidently thoroughly convinced as to the propriety of its decisions; as witness its claim before the West Virginia Commission in 1921, that the very expenditures in question were operating expenses. The Company is now estopped from re-accounting for those expenditures.

With the decline in favor of the doctrine of "fair value" as the only mode of public utility rate regulation, its keystone, reproduction cost, crumbles. Bona fide investment figures now become all important in the regulation of rates. Immediately, however, we find an effort to tamper with these. There is in progress an attempt to make the reproduction cost *process* survive in the determination of actual cost of or investment in plant. Thus, in this case an inventory was taken and then units were priced at the estimated "actual cost." The method should be condemned at

¹² Costs of exploration for and development of future gas reserves are considered current operating costs by the industry and Hope has included such costs in its current operating expenses. If retroactive accounting were allowed then the Company might restate these costs as capital investment in the future productive acreage. The Commission will allow \$600,000 in annual operating expenses for exploration and development costs in fixing rates. If this item were permitted to be restated in plant cost ten years from now \$6,000,000 would be added to the rate base resulting in multiple charges to consumers.

the threshold. For in addition to being permeated with conjectural estimates, it gives no heed to the realities of past events. Consistent treatment of expenses and plant investment costs is indispensable to the successful operation of the regulatory system.

This is not to say that genuine errors in the investment accounts should not be corrected and the true figures

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given recognition in the rate base. Where real errors are made, they probably should be corrected. A distinction must be made, however, between genuine errors and a change in point of view, whereby past, deliberate decisions within the scope of an accepted principle are sought to be impeached to the pecuniary benefit of the Company.

The courts and commissions which have considered this matter have generally refused to include in the rate base amounts previously charged to expense in accordance with discretion of management. In the instant case, large parts of the claimed additions to book costs relate to well drilling expenditures and alleged overheads. The very question at issue has been passed upon twice by the Supreme Court of Appeals of West Virginia. In the first case in 1924, the Natural Gas Company of West Virginia sought to include such expenditures in the rate base after they had been charged to expense. The Public Service Commission of West Virginia refused to allow them. The Supreme Court of Appeals sustained the Commission.¹³ The question was raised again in 1934 by the Natural Gas Company of West Virginia. The Public Service Commission of West Virginia then concluded that the inclusion of such expenditures in the rate base was required as a matter of law. The City of Wheeling, West Virginia, appealed the Commission's decision. The Court reversed the Commission and

¹³ *Natural Gas Company v. Public Service Commission*, 95 W. Va., 557, 121 S. E. 716, 720, P. U. R. 1924 D 346, 361.

again held that items previously charged to operating expenses should not be included in the rate base.¹⁴

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Thus, by far the weight of authority in court and commission decisions sustains the principle, sound in equity and justice, that items previously charged to operating expenses under the allowable discretion of management should not later be included in the base on which customers are required to pay a return and depletion and depreciation allowances.¹⁵

The Hope Company's earnings over the years have been ample to provide for all operating expenses, including the \$17,800,000 which it attempts to add to actual cost, an excessive reserve for depletion and depreciation, taxes, and large returns to investors. During the period 1898 to 1923 for which the Company seeks to re-account and expand its recorded plant costs by approximately \$12,600,000 for well drilling costs alone, the average rate of earnings on the annual average invested capital (capital stock and surplus) was more than 15%.

Actual Legitimate Cost Or Gross Plant Investment

Accordingly, we begin with the book cost in the determination of the actual legitimate cost or investment in the facilities used in the Company's interstate business. We

¹⁴ *Wheeling v. Natural Gas Company*, 115 W. Va. 149, 175 S. E. 339, 343-4, 5 P. U. R. (N. S.) 471, 479, app. dis. 296 U. S. 659.

¹⁵ *Re Los Angeles Gas & Electric Corp.*, P. U. R. 1931 A, 132, 143-4, aff. 58 Fed. (2d) 256, 261, 267, 289 U. S. 287; *Re Peoples Gas Light & Coke Co.*, 19 P. U. R. (N. S.) 177, 196-8, aff. 373 Ill. 31, 25 N. E. (2d) 482, 493, 31 P. U. R. (N. S.) 193, 207, app. dis. 309 U. S. 634; *Re West Virginia Central Gas Co.*, P. U. R. 1918 C, 453, 464-6; *Re Mondovi Telephone Co.*, P. U. R. 1933 B, 319, 321-3; See *Re Northwestern Electric Co.*, 36 P. U. R. (N. S.) 202, 208-213, aff. 125 Fed. (2d) 882; *Re Canadian River Gas Co., et al.*, F. P. C. Op. 73; cf. *Chicago & N. W. R. Co. v. Com'r. Int. Rev.*, 114 Fed. (2d) 882, 886, cert. den. 312 U. S. 692.

have already found that such book cost at the end of 1938 amounted to \$53,730,666. There must be deducted from the

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book cost the unrecorded retirements, or inventory adjustments in the amount of \$2,057,618. There is added to the book cost the amount of \$15,152 (\$8,764 for constructed property and 6,388 for acquired property) representing adjustments due to errors in stating the cost of leases, and an amount of \$1,295,953, representing plant costs properly capitalized and then arbitrarily charged off to operating expenses.

There is considerable question as to whether the latter amount should be restored to book cost in determining the rate base. The amount arises as follows. From 1918 to 1923 Hope followed the peculiar practice of capitalizing the cost of direct labor incurred in laying pipe lines, constructing compressor stations and in installing equipment, but at the end of each year, arbitrarily charged off the amount thus capitalized during the year. This practice was peculiar to the Hope Company and was not a general practice of the industry. It did not conform to sound accounting principles. Hope followed the correct practice during all of its existence except for the few years mentioned. Under the circumstances, the amount is restored to the investment figure and is allowed in the rate base. The allowance in this instance, however, is not to be construed as a precedent.

As of December 31, 1938, the cost of unoperated acreage (\$584,382) and the cost of certain wells and field lines (\$192,150) then not in service were contained in the accounts. These items are eliminated from gas plant in service as of December 31, 1938, and appropriate adjustments for the use of such property and facilities are made subsequently.

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After considering the evidence based upon the vouchers, books and records of the Company, and as a result of

the application of fundamental principles of accounting, cost determination and equity, the Commission finds, in the words of Section 6(a) of the Act, the actual legitimate cost as of December 31, 1938 in plant used in the interstate business was \$51,207,621, composed as follows:

Book Cost 12/31/38	\$52,730,666
Less Inventory adjustments (unrecorded retirements)	2,057,618
Less Wells and Field Lines Not in Service	192,150
Less Unoperated Acreage	584,382
Sub-total	49,896,516
Plus Correction to Cost of Leases	15,152
Plus Capitalized Costs Charged Off in Error	1,295,953
Actual Legitimate Cost of Plant in Interstate Service	\$51,207,621

There were more retirements than additions in 1939, so the actual legitimate cost was \$51,099,024 at the end of 1939. The record shows net additions of \$965,533 in 1940 to produce a total actual legitimate cost of \$52,064,557. Certain inactive wells with the connected field lines became active in 1940 and the cost of this property is \$110,316. We find that the actual legitimate cost, including such currently used property, aggregates \$52,174,873 as of December 31, 1940.

This actual legitimate cost is predicated upon facts and it is the best evidence in these proceedings, so we will employ it for determining the proper and allowable rate base.

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Depletion and Depreciation

In determining the allowable rate base in these proceedings the actual existing depletion and depreciation should be deducted from the actual legitimate cost of the property devoted to the interstate service. See *Los Angeles Gas & Electric Corp. v. R. R. Comm.*, 289 U. S. 287,

312. Actual existing depletion and depreciation is the extent to which the service life, that is the economic life, of the property has been consumed due to such forces as exhaustion of the natural gas supply, wear, inadequacy, and obsolescence.¹⁶ Annual depletion and depreciation measure the economic service life consumed in one year, actual existing depletion and depreciation are the accrued consumption of the utility's economic service life on a certain date; the annual allowance for depletion and depreciation must, therefore, be correlated with the actual existing amount to avoid injustice to the utility or rate payer. *Re Canadian River Gas Co., et al.*, F. P. C. Op. 73; *Re Chicago District Electric Generating Corp.*, 39 P. U. R. (N. S.) 263, 275; *Re Interstate Power Co.*, 32 P. U. R. (N. S.) 1, 10.

The Company presented inconsistent claims in this respect. It alleged a relatively small amount of accrued or existing depletion and depreciation to be deducted in fixing the rate base, but claimed large annual amounts for future operating expenses.

The Company contends that the accrued depletion and depreciation in its property equaled approximately 35%

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of the reproduction cost at the end of 1938. We have weighed the estimate of reproduction cost and found it wanting. In addition, it is inequitable to predicate depletion and depreciation upon the delusive reproduction cost. The integrity of the investment will be maintained by basing depletion and depreciation upon actual legitimate cost and the Supreme Court has approved that method.¹⁷

¹⁶ *Lindheimer v. Illinois Bell Tel. Co.*, 292 U. S. 151, 167; *Re Canadian River Gas Co., et al.*, F. P. C. Op. 73; cf. *Depreciation Charges of Telephone and Steam Railroad Companies*, 174 I. C. C. 351, 408, 422.

¹⁷ *Lindheimer v. Illinois Bell Tel. Co.*, 292 U. S. 151, 167-9, 176; *Federal Power Commission v. Natural Gas Pipeline Co.*, 315 U. S.

The Company determined accrued depreciation primarily by the observation process and obtained what is called a "per cent condition" of the property. For annual expense purposes, it weighted the observed depreciation with retirement of property up to the date of the study. The fallacy of the "per cent condition" theory of accrued depreciation is plain here. To illustrate, under the hypothesis of the Company's witness, in determining the "per cent condition" of certain compressor station equipment, the property would be found to have depreciated only 25% throughout its life or be in 75 "per cent condition," and then suffer a precipitous loss in the brief final stage of service. Such a theory is opposed by reason and facts. *Los Angeles v. Southern California Telephone Co.*, 14 P. U. R. (N. S.) 252, 273-4. The Company's estimate of existing depreciation was based primarily upon a sporadic visual inspection of physical deterioration. Most of Hope's production and transmission property is not visible and the extent to which the service life has been consumed can not be determined from observation alone. Also, the functional

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causes of the retirement of property are given little consideration by the Company's visual method which samples physical causes. *Re Rochester Gas & Electric Corp.*, 33 P. U. R. (N. S.) 393, 468-490. The Commission concludes that the so-called accrued depletion and depreciation claimed by the Company does not give full or proper consideration to all factors contributing to the retirement of property, and that it does not reflect the actual existing depletion and depreciation or diminished service life of the property in service.

The Required Reserve For Depletion and Depreciation

The same factors that cause annual depletion and depreciation cause the actual existing depletion and depreciation to be deducted from the property in fixing the rate base. In our opinion, where reasonable and proper depletion and depreciation accounting practices have been observed by a natural gas company, the resulting reserve is the best measure of the depletion and depreciation existing in the property, i.e., the accumulated cost of property which has been consumed in service.

It is well known that many electric and gas utilities have not observed sound depreciation and depletion practices. The Hope Company is in this category. For many years most of Hope's business was not under regulation. Its practices as to depreciation and depletion, like the practices of many other utilities, were inconsistent and haphazard. Its book reserve does not measure the actual existing depreciation and depletion.

This Company has actually accumulated an excessive reserve. We are confronted, therefore, with the question

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as to whether that excessive reserve, or the reserve requirement (actual existing depreciation and depletion), should be deducted in determining the rate base.¹⁸ We have formerly indicated that public utilities ought to set up proper depreciation (and depletion) expense and that the resulting reserve should be deducted from the gross cost in the rate base determination.¹⁹ We reiterate that view.

¹⁸ There are those who argue that excessive reserves should be deducted. *Pennsylvania Public Utility Comm. v. The Peoples Natural Gas Co.*, Nos. 11380, 12683 (1942), Buchanan, dissenting; See *Chesapeake & Potomac Tel. Co. v. Whitman*, 3 Fed. (2d) 938, 951-953; *New York Telephone Co. v. Prendergast*, 36 Fed. (2d) 54, 66.

¹⁹ *Re Interstate Power Co.*, 32 P. U. R. (N. S.) 1, 10; *Re Chicago District Electric Generating Corp.*, 39 P. U. R. (N. S.) 263, 275.

We believe, however, that under such circumstances as exist in this case, where a large part of the Company's business is brought under regulation for the first time and where incorrect depreciation and depletion practices have prevailed, the best procedure is to deduct the reserve requirement in computing the rate base. This procedure will permit us to be consistent in those cases where utilities have deliberately failed to observe sound practices and as a result have deficient reserves. Thus, in the Interstate Power Company case, where the company had been negligent in accounting for depreciation and had a deficient reserve, we deducted the higher reserve requirement, as the measure of actual existing depreciation.

It should be borne in mind, however, that the deduction of the reserve requirement, rather than the actual book reserve, is for the purpose of getting a sound basis for

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future regulation and control of rates. Hereafter, the Company, in accordance with this Opinion and under our System of Accounts, is required to record proper depreciation and depletion expense. Hence, the books of this Company, as well as the books of others subject to our jurisdiction, after once having the reserve requirement determined, should reflect in substantial degree the proper depreciation and depletion. Use of the reserve requirement in this case will produce a proper starting figure so that the book reserve can be deducted hereafter as the proper measure of the actual depreciation and depletion. This treatment will then be consistent with the view that the book reserve is the proper deduction from the gross cost in determining the rate base.

It becomes necessary, therefore, to ascertain the best measure of the reserve requirement. The purpose of depletion and depreciation accounting is to offset diminution

in service value²⁰ of property being used in service, and to determine as accurately as possible another element of the cost of service for a particular period. All of Hope's physical property, except certain land, will be depleted or depreciated completely when it reaches the end of its useful or economic life. Physical and functional forces, whether their effects are visible or not, are constantly reducing the service life of the Company's property. Service life is the equivalent of economic life or the utility of the property.

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Hope incurs plant costs to provide for future service and to make production possible. As natural gas service is rendered the economic value of property is gradually consumed, and the property is finally retired at the end of its service life. The cost of the property consumed annually in rendering that service should be charged to operating expenses to reflect the depletion and depreciation incurred.

The Commission's Staff presented a depletion and depreciation reserve requirement study in these proceedings. Estimates were made of the over-all service lives of the properties by classes; those average service lives were converted into depreciation rates, and then applied to the cost of properties to determine the portion of the cost which had expired, that is, which related to the consumed service lives. The study covers the operations of the Company from its beginning in 1898 to December 31, 1940. It shows annual amounts for each group of property from the date installed to the date of retirement, and it concurrently provides the necessary reserves for property retired and for the ultimate retirement of existing property. The fundamental principle that annual expense for depletion and depreciation must be harmonized with accrued depletion and depre-

²⁰ "Service value." is the difference between original cost and the net salvage value of gas plant. Depletion and depreciation signify the consumption of service life of property and when that is translated into dollars it shows the loss in service value.

ciation has been applied here. The straight-line service life method was used to compute the reserve requirement for all of the material, equipment and structures of the Company, and the unit-of-production method was applied to plant costs which are associated with the gas supply, i.e., gas producing lands and leases, field line and gas well con-

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struction; rights-of-way, and costs of abandoning gas wells.²¹ The service life study was made by a properly qualified Staff engineer who analyzed Hope's past experience, including the retirement of property over the years. He gave consideration to relevant service life data on other pipe lines. He also considered the functional and physical aspects of depreciation. As an aid in the determination of service lives he made a field inspection of the Company's physical properties. The unit-of-production method used by the Staff was related to the gas reserves of the active wells of the Company. This case is free from the usual complexities involved in the estimate of gas reserves because the geologists for the Company and the Commission presented estimates of the remaining recoverable gas reserves which were about one per cent apart. The permeability and porosity characteristics of the region cause isolated pools of natural gas, and the Company's gas production properties are intermingled with non-productive areas and other companies' properties. This situation necessitated the segregation of Hope's property into gas producing areas for the depletion and depreciation reserve requirement study. Gas rights, well construction and connected field line construction costs are consumed in service proportionately with the depletion of the associated gas supply. Well equipment and field pipe line material are recovered and used again when the various sources of gas supply are exhausted. These facts of operation have been

²¹ As defined in the Uniform System of Accounts.

recognized in the ascertainment of the required reserve for depletion and depreciation.

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The Staff recommended the depletion and depreciation reserve requirement for Hope's production, transmission and general plant in the amount of \$23,520,561 as of December 31, 1940.²² After a careful analysis of the evidence we have accepted certain adjustments advocated by the Company and find that the depreciation and depletion reserve should be not less than \$22,328,016 as of December 31, 1940. These adjustments are as follows: (1) Due to the plant inventory adjustment made by the Company, as of December 31, 1938, and accepted by all parties, a net reduction in the plant accounts was made which represents property retired prior to December 31, 1938, but not so recorded on the books. The Company contends that 10 years is a fair approximation of the average period by which these retirements have been accumulating, hence the depreciation provisions should be reduced for the 10-year period. Had the retirements been made on the books as soon as the property was retired the depreciation base would be reduced and the annual provisions would be less. It is impossible to determine the actual dates the property was retired and we accept the 10-year period as a reasonable estimate of the average time from the date the property was retired to December 31, 1938. This adjustment results in a reduction of \$31,106 in annual depreciation expense for each year and

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a reduction of \$311,060 in the reserve requirement as of December 31, 1938. (2) In the case of lines lifted, Hope has

²² That recommended required reserve is after a deduction of \$1,162,710 for cost of abandoning property. The depreciation rates used in the reserve requirement study make proper provisions for the inevitable cost of abandoning property. But during the period 1898-1931 Hope charged the cost of abandoning property to maintenance expense, rather than to the depreciation reserve as a part of the net salvage.

usually retired labor cost and charged it to the depreciation reserve. But in the case of pipe retired in connection with a replacement the original labor was not always retired and the renewal labor was charged to operating expense. The depreciation rates applied by the Staff include provisions for the retirement of all labor and materials, hence its reserve requirement computation includes accruals for construction labor cost on the main pipe lines which has been retired and not charged to the depreciation reserve. The Company has estimated an amount of \$272,693 representing the additional retirements of labor cost which we will allow as a reduction in the reserve requirement. (3) The group depreciation rate of 2.5% employed by the Staff in its study should be reduced to 2.22% for gas well equipment. As revised the rate for gas well material is the same as for field line material, although the evidence indicates that a somewhat shorter average life has been experienced for gas well material than for field line material. At the rate of 2.22% the annual depreciation expense will be reduced \$21,110 for 1939 and \$20,911 for 1940. Consistent with the reduction in the annual depreciation expense the reserve requirement at the end of 1938, 1939 and 1940 will be reduced \$566,771,²³ \$587,881, and \$608,792, respectively.

The first two of the above-mentioned adjustments are the result of certain accounting practices of Hope prior to

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December 31, 1938 and do not affect depreciation expense for the years subsequent to that date. The reserve requirement which the Commission finds to be reasonable and proper is summarized as follows:

²³ Total provisions from 1898 to 1938, inclusive, amount to \$5,060,456 at a 2.5% depreciation rate and \$4,493,685 at a 2.22% depreciation rate for gas well equipment.

Depletion and Depreciation Reserve Requirement

	Dec. 31, 1938	Dec. 31, 1939	Dec. 31, 1940
Amount Computed by Staff	\$23,501,356	\$24,072,167	\$24,683,271
Less: Staff Adjustment for Cost of Abandoning Property	1,162,710	1,162,710	1,162,710
Amount Recommended by Staff	22,338,646	22,909,457	23,520,561
Less: Unrecorded Retirements	311,060	311,060	311,060
Unretired Labor on Trans- mission Line Replace- ments	272,693	272,693	272,693
Change in Depreciation Rate for Gas Well Equipment	566,771	587,881	608,792
Total Adjustments	1,150,524	1,171,634	1,192,545
Required Depreciation and Deple- tion Reserve	\$21,188,122	\$21,737,823	\$22,328,016

The required depletion and depreciation reserve, as we have determined it upon the record, is the best evidence of the measure of actual existing depletion and depreciation, and it will be deducted from the actual legitimate cost of the Company's property for rate-making.²⁴ The reserve requirement on any selected date is the total of the annual provisions for depletion and depreciation less the actual retirements of property. The method used here determines the amount required annually to reimburse the Company for property consumed in service, and it results in a cor-

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relation of the annual expense and the accumulated reserve. The method is just and consistent for each operating period because the costs utilized are matched with the revenues produced by the property in service.

²⁴ See *Re Long Island Lighting Co.*, 18 P. U. R. (N. S.) 65, 146-151, 189-191; aff. 249 App. Div. 918, 292 N. Y. S. 807, 809, 18 P. U. R. (N. S.) 225, 226; *Re Rochester Gas & Electric Corp.*, 33 P. U. R. (N. S.) 393, 489, 502-3; National Association of Railroad and Utilities Commissioners, Proceedings of Fiftieth Annual Convention (1938) pp. 473-4.

As we have noted, the Company has built up an excessive reserve by charging large annual allowances for depletion and depreciation to operating expenses in the past.

The book reserve for interstate plant at the end of 1938 amounted to about \$39,000,000 which is \$18,000,000 in excess of the amount we determined as the reserve requirement. In addition, twice in the past the Company has transferred amounts aggregating \$7,500,000 from the depreciation and depletion reserve to surplus. When these latter adjustments are taken into account, the excess becomes \$25,500,000, which has been exacted from the rate payers over and above the amount required to cover the consumption of property in the service rendered and thus to keep the investment unimpaired. *Lindheimer v. Illinois Bell Tel. Co.*, 292 U. S. 151, 169, 174.

Estimated Additional Fixed Capital Expenditures

To make the rate base figures current, the Company presented an estimate of \$8,956,500 in "capital expenditures" which it planned for production, transmission and general plant during 1941, 1942 and 1943. Obviously these proposed gross additions should increase the allowable rate base only to the extent that net actual legitimate cost will be increased. Also, \$1,270,000 was estimated for 1943 additions to meet the demands of new or increased business.

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The Commission has not given direct effect to those expected 1943 additional revenues in the forecast of revenues for rate-making, so that \$1,270,000 will not be included in the rate base. The determination of the estimated increase in net plant cost requires the consideration of additions and retirements of plant and the effect on the depletion and depreciation reserve of future accruals and retirements. Giving due weight to all these factors the increased

net actual legitimate cost, averaged for the period 1941-1943, is \$1,392,021.²⁵

The Company presented a general plan which it has for the construction of a pipe line from West Virginia to Louisiana to supplement its present source of supply of gas and to meet predictable increased demands for natural gas. Due mainly to the shortage of materials caused by this war, the status of that proposed line is so uncertain that it need not be considered in these proceedings. When the proposed line is constructed and definite information is presented concerning its effect on the rate base and net income, the Commission will give the matter timely and

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appropriate consideration.

Other Used and Useful Property

The Company's geologist grouped the unoperated acreage²⁶ into three classes: (1) protective acreage within a mile of producing wells comprised 64%; (2) prospective

Estimated Fixed Capital Expenditures 1941-1943	\$8,956,500
Less: Expenditures in Expectation of New or Increased Business	\$1,270,000
Gross Property Retirements	2,700,000
	<hr/>
Estimated Net Change in Plant	4,986,500
Deduct: Estimated Net Change in Depletion and Depreciation Reserve—Depletion and Depreciation Accruals 1941, 1942, 1943	4,362,500
Less: Retirement Losses Chargeable against Reserve	2,160,042
	<hr/>
Estimated Increase in Net Actual Legitimate Cost	\$2,784,042
Average for the period ($\$2,784,042 \div 2$)	\$1,392,021

²⁶ Operated gas acreage is any acreage that is being drained by producing gas wells and all other acreage is considered as unoperated. Hope has held less than two unoperated acres to one operated acre during the last ten years.

acreage for shallow-sand production within three miles of producing wells comprised 14%; and (3) prospective acreage for deep-sand production within three miles of producing wells comprised the remaining 22%. The total unoperated acreage as of December 31, 1940, was 539,285 acres. The Company has undertaken an extensive drilling program, including deep-test wells, and it is a reasonable expectation that within a few years nearly all of this unoperated acreage will become productive, or will be proved unproductive and cancelled. There is no evidence that Hope has acquired large blocks of unoperated acreage to obtain a monopoly on the source of supply, and there is evidence that all of its unoperated acreage is necessary and useful, or imminently useful, in rendering gas service. The cost of unoperated acreage will be included in the rate base. The Commission finds that the actual legitimate cost of unoperated acreage was \$584,382 as of December 31, 1938, \$567,152 for the end of 1939, and \$566,105 as of December 31, 1940.

Materials and Supplies Plus Cash Working Capital

There is no controversy over the amount of materials

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and supplies required by the Company. The monthly average of materials and supplies on hand is the most accurate measure of the Company's requirements. The Commission finds that \$1,228,599 is the necessary average amount for materials and supplies in 1939, 1940 and the future. This is sufficient, on the average, to meet requirements for more than a year.

A witness for the Company used a period of 45 days as the lag in the receipt of revenues. He stated that 45 days of operating expenses, including gas purchased, would measure the cash working capital required by the Company on a practical operating basis and he computed the amount to be \$1,754,008.

A period of 45 days is ample to measure the amount of cash required for payment of operating expenses. Cost of gas purchased must be excluded from the computation because revenues from gas sales are received before the payment for purchased gas is due. The Company has approximately \$500,000 on hand at all times representing taxes which are not paid until many months after they are accrued and these tax funds are available for bank balances and working capital requirements. The Commission will allow cash working capital in the amount of \$871,407 for 1939 and \$896,401 for 1940. This is the maximum allowable amount computed on 45 days of operating expenses, excluding cost of gas purchased, and allowing prepaid expenses in full.

The Commission finds that \$2,100,000 was required for materials and supplies and cash working capital in 1939, and that \$2,125,000 was necessary for 1940 and will be adequate for the future.

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Conclusions With Respect to the Rate Base

There is a further matter with respect to plant investment which the Commission will consider before making the final determination of the rate base. Prior to January 1, 1939, the Company charged all administrative and general costs to operating expense. Beginning January 1, 1939, the Company tentatively adopted the practice of capitalizing a portion of its administrative and general expenses. This discretion by the management is permissible under the Commission's Uniform System of Accounts. This tentative capitalization of administrative and general expenses was reconsidered by the Company and it has informed the Commission that it wishes to resume the regular practice of including all general and administrative costs in operating expenses. This change in the tentative accounting policy is reflected in the verified annual report for

1941 filed with this Commission. The amounts of \$73,439 for 1939 and \$138,018 for 1940 are removed from plant costs and included in operating expense for the respective years. Theoretically, adjustments to annual depreciation expense and to the reserve requirement should be made on account of the foregoing, but the amounts are so insignificant in a case of this magnitude that no inequity will result from not making them.

The analysis of the evidence which we have discussed with respect to the components of the rate base and our conclusions may be summarized thus:

	Dec. 31, 1938	Dec. 31, 1939	Dec. 31, 1940	Future
Gross Investment in Gas Plant in Service (Exclusive of Distribution Plant, and Property Used to Transport Coke-oven Gas)	\$51,207,621	\$51,019,585	\$51,957,416	\$51,957,416
Less: Actual Existing Depletion and Depreciation	21,188,322	21,737,823	22,328,016	22,328,016
Net Investment	30,019,499	29,281,762	29,629,400	29,629,400
Add: Net Capital Additions 1941, 1942, 1943				1,392,000
Useful Unoperated Acreage	584,382	567,152	566,105	566,105
Working Capital	2,100,000	2,100,000	2,125,000	2,125,000
Interstate Rate Base	\$32,703,881	\$31,948,914	\$32,320,505	\$32,712,505

The Commission, therefore, adopts the foregoing amounts as the interstate rate base for the dates indicated, for the Company's property assembled as a whole and doing business as part of an integrated system. The Commission finds that the rate base for 1939 was the average of the rate base amounts at the beginning and the end of that year or \$32,326,398, that the rate base for 1940 was the average of the rate base amounts at the beginning and the end of that year or \$32,134,710, and that the rate base for fixing future rates is \$33,712,526.

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OPERATING REVENUES AND EXPENSES

For rate-making purposes the Commission has given consideration to the actual operating revenues and expenses of the Company for 1937-1940, inclusive, and has also considered the income statements since 1898. In testing the reasonableness of existing rates the latest experience of the Company, as disclosed by the record, is the closest reflection of the present and future operations.

Interstate Gas Service Revenues

There is no controversy over the volume of gas sold or the revenues received by Hope. The Commission finds that during the years 1939 and 1940 the interstate gas sales to the five customer companies were as follows:

	1939		1940	
	<u>M.c.f. billed</u>	<u>Revenues</u>	<u>M.c.f. billed</u>	<u>Revenues</u>
East Ohio Gas Company	33,907,672	\$12,359,500	40,376,091	\$14,726,736
Peoples Natural Gas Company	3,864,104	1,371,757	9,738,612	3,457,207
River Gas Company	237,640	83,174	388,750	136,063
Fayette County Gas Company	840,398	264,725	859,106	270,618
Manufacturers Light and Heat Company	2,500,755	787,738	2,241,684	706,131
	<u>41,350,569</u>	<u>\$14,866,894</u>	<u>53,604,243</u>	<u>\$19,296,755</u>

Interstate Operating Expenses

The Commission has considered the Company's operating expenses as recorded on its books, as claimed for rate-case purposes, and as recommended by the Staff. The subsequently discussed adjustments to the Company's operating expenses are made to the amounts as actually recorded.

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on its books for the years 1939 and 1940.

Depletion and Depreciation Expenses

The annual allowance for depletion and depreciation included in operating expenses is determined by the same

rates and methods used to determine the depletion and depreciation actually existing in plant.

The Commission finds that \$392,500 for 1939 and \$624,440 for 1940 is the proper allowance for depletion expense. The present and prospective demands upon the production system indicate that production for the year 1940 is the proper guide for future depletion expense and we will allow \$624,440 as the average cost of depletion in our determination of the cost of service. (Depletion expense is computed on the unit-of-production, hence it varies with the actual production of gas.)

The record shows that Hope Company's annual depreciation expense has remained relatively stable, the proper amounts for 1939 and 1940 being as follows:²⁷

	1939	1940
Production Plant	\$351,811	\$349,676
Transmission Plant	460,267	460,245
General Plant	25,725	25,676
Total Depreciation Expense	\$837,803	\$835,597

²⁷ Determined by applying the following straight-line depreciation rates to the average depreciable investment for the year:

<i>Production Plant:</i>	<i>Rate</i>
Structures	4.17%
Field Line, Material, Meas. & Reg.	
Station Equipment	2.22%
Gas Well Equipment	2.22%
<i>Transmission Plant:</i>	
Main Lines, Rights-of-Way and Meas. & Reg. Station Equipment	1.56%
Structures	2.50%
Compressor Station Equipment	2.56%
<i>General Plant:</i>	
Structures	2.17%
Office Furniture & Equip.	4.00%
Other Equipment	3.57%
Communication Equipment	3.85%

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The Commission finds that, the annual depletion and depreciation allowance required for future operating expenses is \$1,460,037.

Exploration and Development Costs

Section 14(b) of the Natural Gas Act authorizes the Commission to determine the "propriety and reasonableness of the inclusion in operating expenses, capital, or surplus of all delay rentals or other forms of rental or compensation for unoperated lands and leases." Delay rentals paid periodically on natural gas lands to reserve the gas rights for a future supply of gas are included in exploration and development costs. The other costs included are those associated with the drilling of non-productive wells, the abandonment of non-productive leases and the abandonment of projects on which preliminary expenditures were made to determine the gas prospects of available acreage.

The Hope Company, like other companies in the natural gas industry, has followed the conservative practice of charging all exploration and development costs to operating expenses. Exploration and development costs are necessary to replenish the Company's gas supply in order to maintain continued gas service. The Commission has included Hope's gas producing acreage and its useful unoperated acreage at cost in the rate base. The annual depletion allowance is based upon the actual legitimate cost of gas producing leases so there is no margin in that annual allowance to cover exploration and development costs. In fairness to the investors and the rate payers the Commission will make an allowance for delay rentals related to the unoperated acreage and the other exploration and development costs in operating expenses. Hope incorrectly stated the cost of abandoned and surrendered leases in 1939 and

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1940 and we find that the cost of leases abandoned should be included in exploration and development costs in the respective amounts of \$45,164 for 1939 and \$12,422 for 1940. The Company's exploration and development costs were \$500,344 in 1939 and \$407,920 in 1940. In view of the Company's extensive program for drilling wells in the next few years and its recent experience with respect to exploration and development costs, the Commission finds that the proper and reasonable future annual allowance for such costs is \$600,000 for rate-making purposes.

Reclassification and Rate Case Expenses

The Hope Company presented evidence to show that it has spent \$675,000 in making reclassification studies in order to comply with the recent Systems of Accounts prescribed by the West Virginia Commission and the Federal Power Commission. The Company also showed expenditures totaling \$825,000 as its expenses in this rate case. A contention is made by the Company that it should be allowed an interest rate of 8% on the "unamortized balance" of its reclassification and rate case expenses. In fact, however, the Company has charged all these costs to operating expenses as they were incurred during the years 1938-1941 and the rate payers have already paid enough to reimburse the Company. The Company's interstate wholesale rates have been excessive for several years and the unusually large amount of rate case expenses would ordinarily prompt the Commission to disallow any such expenses to be amortized in the future under the rates the Commission will prescribe because it results in a duplica-

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tion of charges. But in view of the Supreme Court's statement that even where rates in effect are excessive the utility should be allowed its reasonable expenses for presenting its side to the Commission, the Commission con-

cludes that the rate case expenses and the reclassification expenses, totaling \$1,500,000 should be spread over a 10-year period beginning January 1, 1939, by the inclusion of \$150,000 annually in operating expenses.²⁸ The Company has charged rate case and property reclassification expenses to operating expenses as incurred in the amounts of \$543,121 for 1939 and \$624,041 for 1940. Those amounts will be eliminated from operating expenses for rate-making, and the allowance of \$150,000 annually for ten years will be made instead.

*Affiliate's Excess Profits From
Processing Hope Company's Gas*

Hope Construction & Refining Company, an affiliate, extracts gasoline and other by-products from the natural gas of Hope Natural Gas Company. The extraction of gasoline and butane is profitable and is necessary to make the natural gas marketable and transportable. The process of extracting gasoline and butane reduces the heating value of the natural gas and consumes a certain volume of Hope's natural gas, thus imposing a burden upon the gas business.²⁹ Much of the gasoline extracted from Hope's natural gas has been sold to the Standard Oil Company at about one-half the price received from sales to others. It is sig-

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nificant that the Hope Natural Gas Company processed its own gas before 1920. The natural gas customers are entitled to be credited with a share of the profit from the processing of Hope's gas, even as they would pay the deficit if that essential processing were not profitable. It is agreed that it is proper to make a credit for a portion of the profits realized by Hope Construction & Refining Com-

²⁸ *Driscoll v. Edison Light & Power Co.*, 307 U. S. 104, 120-121.

²⁹ *Re Hope Natural Gas Co.*, P. U. R. 1921E 418, 428-430.

pany from the processing of Hope's gas, but there is a dispute over the amount of the credit. The Commission concludes that the credit proposed by the Company, being a royalty of $\frac{1}{4}$ of the gross earnings from the gasoline and butane extracted, is not supported by sufficient evidence. The excess profits of the affiliated company above the cost of processing Hope's gas and a fair rate of return on its investment is the proper credit to Hope Natural Gas Company. See *United Fuel Gas Co. v. Comm'n*, 278 U. S. 300, 319-321; *Dayton Power & Light Co. v. Comm'n*, 292 U. S. 290, 295. The cost of processing Hope's gas includes all of the affiliated company's related operating expenses, including depreciation expense, taxes, and a liberal $6\frac{1}{2}\%$ rate of return on the net investment, plus working capital, devoted to the processing function. The affiliated company's extraction plants are usually located near Hope's compressor stations. The Commission finds that Hope should have received payments of \$117,641 in 1939 and \$119,592 in 1940 for the steam and boiler fuel which it furnished its affiliate at the extraction plants, and that the gas vapors which are returned to Hope after processing belong to Hope as part of its natural gas. From the record we

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find that Hope Construction & Refining Company had the following average net investment and required working capital devoted to processing Hope's natural gas:

	1939	1940
Gross Investment	\$1,716,145	\$1,696,510
Depreciation Reserve Requirement	1,208,739	1,260,312
Net Investment	507,406	436,198
Working Capital	80,000	80,000
Average Net Investment	\$ 587,406	\$ 516,198

The Commission finds that Hope's affiliate has earnings from the processing of gas in excess of a fair return and that these excess profits are applicable as reductions

of Hope's operating expenses. For 1939 and 1940 these excess profits are determined as follows:

	1939	1940
Gasoline and Butane Revenues	\$791,451	\$770,028
Related Operating Expenses	518,394	551,370
Net Processing Income	273,057	218,658
Return at 6½% on Net Investment Plus Working Capital	38,181	33,553
Excess Profits	\$234,876	\$185,105

In prescribing future rates the affiliate's excess profits for 1940 will be employed as a conservative measure of Hope's portion of the profits from the gasoline and butane extracted from its gas.

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Other Adjustments to Operating Expenses

Hope furnishes management services to several affiliated companies at cost, and credits the proceeds to miscellaneous gas revenues thereby permitting the cost of those services to others to remain in its operating expenses. The Commission, therefore, finds that operating expenses should be reduced \$192,415 for 1939 and \$109,194 for 1940 for the cost of services billed to others in order to reflect actual net operating expenses.

Hope furnishes natural gas to Hope Construction & Refining Company for use in repressuring oil wells. The gas is returned to Hope's system at reduced pressures. An amount of 21.2¢ per m.c.f. is regarded as the cost of recompressing the natural gas returned to the Hope Company. Hope records these transactions as sales and purchases of natural gas and that practice overstates both revenues and expenses. The Commission finds that operating expenses and revenues should be reduced \$72,388 for 1939 and \$73,644 for 1940 to eliminate duplication of cost in production and transmission expenses.

The Company has eliminated the property and expenses relating to the transportation of coke-oven gas used as fuel at its Hastings Compressor Station and in its figures has substituted the cost of an equivalent amount of natural gas priced at 22¢ per m.c.f. The Commission agrees with the Company and finds that \$295,158 for 1939 and \$333,036 for 1940 should be eliminated from operating expenses, and that \$107,758 for 1939 and \$126,000 for 1940 should be included in operating expenses to reflect the

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equivalent cost of natural gas for the quantity of coke-oven gas used as fuel in the Hastings Station.

Hope furnishes steam from its compressor stations without charge to Hope Construction & Refining Company for use in the extraction plants, with the exception of the steam furnished from Goff Compressor Station, and does not record this transaction on its books. The necessary adjustment for this free steam has been made by the Commission. The Company credits revenue instead of expenses with the value of steam furnished by its Goff Station, thereby overstating both gas service revenues and the cost of compressing natural gas. The Commission, therefore, finds that operating expenses should be reduced \$4,404 for 1939 and \$6,000 for 1940 to state the actual cost of operation.

Hope bills the Peoples Natural Gas Company at the rate of 38.5¢ per m.c.f. for the natural gas sold and includes the gross amount of the billings in revenues. The Peoples Company must compress that gas to transport it to market, so Hope refunds 3¢ per m.c.f. to Peoples under the provision of the sales contract and includes this amount in its operating expenses as a cost of compressing gas. This accounting practice followed by Hope overstates the actual revenues and overstates the actual operating expenses. The Commission finds that the cost of compressing gas has been stated incorrectly and that operating expenses should be reduced \$115,923 for 1939 and \$292,158 for 1940.

Certain donations were included by the Company in Administrative and General Expenses. The Commission finds that donations amounting to \$5,183 for 1939 and \$3,496

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for 1940 are not allowable costs for purposes of rate-making and should be deducted from operating expenses.

The Company has included \$10,926 for the settlement of a claim for damages and \$16,318 to meet a deficiency in its insurance plan for employees in general expenses for the year 1939. These expenses are applicable to prior years' operations and therefore not allowable for 1939.

Hope recorded the salvage received from an experimental liquefying gas plant as revenues in the amount of \$23,896. That amount should have been applied as a reduction of the cost of the experiment, which cost was charged to 1940 operating expenses. Therefore, the Commission finds that 1940 operating expenses should be reduced \$23,896.

State and Miscellaneous Federal Taxes

The Company has included in taxes for the years 1939 and 1940 certain amounts which should not have been included, and has failed to include certain other amounts which should have been included. The following table shows the amounts:

	1939	1940
Taxes Not Applicable		
Taxes applicable to prior years	\$23,349	\$17,099
W. Va. taxes billed others	10,768	41,334
Taxes not applicable to gas operations	2,741	3,218
	<hr/> 36,858	<hr/> 61,651
Taxes Applicable		
Underaccrual of taxes	16,548	313
Net Tax Adjustment	<hr/> \$20,310	<hr/> \$61,338

The Company has over-accrued Federal Income taxes on its books and the Commission has made a deduction of

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\$33,479 for 1939 and \$16,480 for 1940 to reflect the taxes actually paid which were \$191,521 for 1939 and tentatively reported to be \$912,313 for 1940.

Specific Distribution Expenses

The Commission finds that certain amounts included in depreciation, administrative and general expenses, and taxes are specific distribution costs, as follows:

	1939	1940
Depreciation	\$ 82,000	\$ 89,345
Taxes	126,981	141,640
Administrative and General	17,237	13,231
Total	\$226,218	\$244,216

Operating Expenses Summary

The total of the Commission's adjustments to operating expenses per books results in a reduction of \$1,186,002 for the year 1939 and a reduction of \$1,199,958 for the year 1940, and they are summarized as follows:

	1939	1940
Decreases in Operating Expenses:		
Excess Profits on Gasoline and Butane	\$ 234,876	\$ 185,103
Steam Furnished H. C. & R. Co.	117,640	119,592
—Goff		
Station	4,404	6,000
Refund to the Peoples Nat. Gas Co. for compressing gas	115,923	292,158
Gas used in repressuring oil wells	72,388	73,644
Management Fees and Expenses	192,415	109,194
Excess Cost of Coke-oven gas	187,400	207,036
Donations	5,183	3,496
Salvage from Liquefying Gas Experiment	—	23,896
Taxes	20,310	61,338
Income Tax	33,479	16,480
Reclassification and Rate Case Expenses	543,121	624,041
Expenses applicable to Reserve Gas Co.	125	—
Expenses applicable to prior years	27,244	—
Total Decreases	1,554,508	1,721,978

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Increases in Operating Expenses:

	<u>1939</u>	<u>1940</u>
Abandoned Leases	\$ 45,164	\$ 12,422
Adm. & General Expenses capitalized in error	79,439	138,018
Depletion and Depreciation	93,903	221,580
Reclassification and Rate Case Expenses	150,000	150,000
Total Increases	<u>368,506</u>	<u>522,020</u>
Total Adjustments	<u>\$1,186,002</u>	<u>\$1,199,958</u>

The functional classification of operating expenses per books and after the application of the foregoing adjustments follows:

Operating Expenses	1939		1940	
	Per Books	Allowed	Per Books	Allowed
Interstate Operating Expenses:				
Natural Gas Production	\$ 1,439,971	\$ 1,186,578	\$ 1,427,594	\$ 1,227,930
Gas Purchased	7,746,854	7,675,105	8,605,981	8,533,779
Transmission Expenses	1,966,993	1,481,833	2,437,381	1,818,335
Administrative and General Expense	1,593,814	1,069,090	1,653,623	1,197,336
Depletion	18,400	392,500	18,384	624,440
Depreciation	1,200,000	837,803	1,309,418	835,597
Amortization (other)	6,369	6,369	5,996	5,996
Exploration and Development Costs	455,179	500,343	395,498	407,920
Taxes: State and Misc. Federal	1,211,732	1,053,117	1,348,005	1,133,862
Federal Income Tax (before tax saving)	225,000	191,521	928,793	912,313
Total Interstate	<u>15,804,312</u>	<u>14,394,259</u>	<u>18,130,673</u>	<u>16,687,508</u>
Specific Distribution Expenses:				
Distribution	201,929	201,775	215,128	215,128
Customers' Acctg., Coll. and Sales Exp.	166,180	164,167	161,917	160,908
Administrative and General		17,237		13,231
Depreciation		82,000		89,345
Taxes		126,981		141,640
Total Distribution	<u>368,109</u>	<u>592,160</u>	<u>377,045</u>	<u>620,252</u>
Total Operating Expenses	<u>\$16,172,421</u>	<u>\$14,986,419</u>	<u>\$18,507,718</u>	<u>\$17,307,760</u>

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Future Operating Expenses

The operating expenses as determined for the purpose of estimating the future cost of interstate service are based primarily on the actual operating cost for the year 1940, the latest available data in the record. That year reflects an increase of \$2,300,000 over the operating expenses of 1939 and is the best guide to present and future costs.

The Commission finds that the following adjustments to 1940 costs are reasonable and proper for the purpose of estimating future operating expenses for rate fixing:

Increase in wages not reflected in 1940 operating costs	\$202,172
Increase in West Virginia property taxes not reflected in 1940 operating costs	81,751
Decrease due to the following non-recurring costs which were included in administrative and general expenses for 1940:	
Cost of moving Company office from Pittsburgh, Pa. to Clarksburg, W. Va.	\$41,750
Experimental liquefying gas plant	8,492
Pennsylvania State income tax	4,601
Decrease	54,843
Increase in Exploration and Development costs to allow an average amount of \$600,000 annually in the future costs	192,080
Total net increase over 1940 operating expenses	\$421,160

Federal Income Tax

In accord with practice, Hope's income tax return for 1940 was prepared on a tentative basis. The evidence in the record shows that the net taxable income was approximately \$3,801,304 for 1940 and was \$1,160,733 for 1939, that the tax rate was 24% for 1940 and 16.5% for 1939, and that the income tax was approximately \$912,313 for 1940 and was \$191,524 for 1939.

The Company does not report operating revenue deductions for tax purposes the same as it records them on its books.³⁰ Adjustments for rate-making and accounting purposes do not affect operating expenses for tax purposes, because that amount is determined by the administration of the federal Revenue Acts. The complete effect of all Commission adjustments is shown by any increase or decrease in revenues which results from a rate order. In order to determine a reasonable allowance for income taxes it is necessary only to apply the proper tax rate to the net taxable income applicable to the test year and to give effect to any tax saving or increase by reason of a change in revenue due to a rate order.

A combined normal and surtax rate of 40% is being discussed in Congress. We will use that rate for the purpose of computing the future income tax allowance. Based on 1940 net taxable income of \$3,801,304 the income tax would be \$1,520,522 at a 40% tax rate.

Each dollar of the indicated reduction in gross revenues will result in a reduction of forty cents in income taxes. The following computation shows the indicated reduction in rates and the amount of income taxes by applying the rate of return found to be fair and which is discussed in the subsequent section:

³⁰ The net income per books in 1940 was \$5,234,175 after book income taxes of \$928,793 or \$6,162,968 before income taxes. The net taxable income for that year was \$3,801,304 showing that Hope claimed \$2,361,664 for tax deductions not reflected in operating expenses on its books.

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	Before Income Tax Saving	After Income Tax Saving
Operating Revenues from Interstate Sales	\$19,296,755	\$15,686,898
Deductions:		
Interstate Operating Expenses (Excluding income taxes)	16,196,355	16,196,355
Other Gas Revenues	(83,275)	(83,275)
Allocation of costs to local West Va. Sales ³¹	(2,694,075)	(2,694,075)
Federal Income Tax at 40%	1,520,522	76,579
Net Operating Revenue from Interstate Sales	\$ 4,357,228	<u>\$ 2,191,314</u>
Return at 6½% on Interstate Rate Base of \$33,712,526	2,191,314	
Excess Earnings before Income Tax Saving	2,165,914	
Income Tax Saving	1,443,943	
Excess Earnings after Income Tax Saving	<u>\$ 3,609,857</u>	

The Commission finds that the amount of \$76,579 is an adequate allowance for Federal Income taxes for the future.³²

³¹ Computed as follows:

West Virginia Operating Revenues		\$3,435,675
Specific Distribution Expenses	\$ 620,252	
Return at 6½% on Distribution Property	121,348	741,600
Allocation of costs to W. Va. Sales		<u>\$2,694,075</u>

³² Computed as follows:

Net Taxable income for 1940	\$3,801,304
Reduction in revenues	3,609,857
Revised Net taxable income	191,447
Tax Rate	40%
Allowance for Income Tax	<u>\$ 76,579</u>

The operating expenses allowed for the future are shown by the functional classification in the following tabulation:

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	1940	Adjustments For Future Operating Changes	As Adjusted For Future
Interstate Operating Expenses:			
Natural Gas Production	\$ 1,227,930	\$ 202,172	\$ 1,430,102
Gas Purchased	8,533,779		8,533,779
Transmission Expenses	1,818,335		1,818,335
Administrative and General Expense	1,187,336	(50,242)	1,137,094
Depletion	624,440		624,440
Depreciation	835,597		835,597
Amortization (other)	5,996		5,996
Exploration and Development Costs	407,920	192,080	600,000
Taxes—State and Misc. Federal	1,133,862	77,150	1,211,012
Federal Income Tax	912,313	(835,734)	76,579
Total Interstate	16,687,508	(414,574)	16,272,934
Specific Distribution Expenses:			
Distribution	215,128		215,128
Customers' Acctg., Coll. & Sales			
Promotion	160,908		160,908
Adm. and Gen. Expense	13,231		13,231
Depreciation	89,345		89,345
Taxes	141,640		141,640
Total Distribution	620,252		620,252
Total Operating Expenses	\$17,307,760	\$(414,574)	\$16,893,186

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RATE OF RETURN

Many factors enter into the determination of what constitutes a fair rate of return in each rate case. The Supreme Court has stated the principal factors in *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm.*, 262 U. S. 679, 692-3. They are that the return of a public utility shall be equal to that generally being made at the same time and in the same region on investments in other enterprises attended by corresponding risks and, that the return should be sufficient to assure confidence in the finan-

cial soundness of the utility and to maintain its credit and enable it to attract the capital necessary for the proper discharge of its public duties.

The record contains an abundance of evidence on the subject of rate of return. The information includes investors' appraisal of the natural gas industry, comparative risk rata, interest rates and yields on securities of natural gas and electric utilities, statistics showing the growth and stability of the natural gas industry, the trend of the cost of money and its current cost, commodity price indices, industrial production, employment, and payroll indices, federal reserve bank rediscount rates, national income payments and other economic data, idle money statistics, the financial history of the Hope Company and the facts about recent financing by its parent Standard Oil Company. That evidence reveals unmistakably that, compared to industrial and railroad enterprises, the utility business has relatively greater stability. Moreover, it shows also that interest rates generally are now lower than

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they have ever been in this century; it discloses that the yields on better issues of natural gas company bonds sold in the last year or two are close to 3%.

The Company's contention that it should be allowed a rate of return not less than 8% is unreasonable. The record shows that the Hope Company is a seasoned enterprise whose risks have been minimized by (1) ample past and present provisions for depletion and depreciation with concurrent high profits; (2) protected established markets, through affiliated distribution companies, in populous and industrialized areas; and (3) available supplies of gas locally to meet requirements, except on certain peak days in the winter, which it is feasible to supplement in the future with gas from other sources. During the forty-two years of its history, to 1941, Hope has earned on its owners' equity an annual average profit of 12% and, in addition,

has built up through annual provisions charged to expense, depletion and depreciation reserves far in excess of requirements. Hope faces no hardship with respect to increased taxes, operating expenses, and inflation, greater than those faced by similar enterprises. The Company's efficient management, established markets, financial record, affiliations, and its prospective business place it in a strong position to attract capital upon favorable terms when it is required.

In making the findings on rate of return, the national and international situations have commanded our attention and entered our deliberations. The Commission is aware of the increased demands made upon Hope for gas due to

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the war program. Considering these matters, the underlying factors, and all of the evidence in the record, the Commission finds that 6½% is the fair rate of return for the Hope Natural Gas Company. This rate of return being for the future, has been set only after endeavoring to weigh all known and predictable elements; in setting it we have made allowance for presently unforeseeable contingencies. Our views on the subject of rate of return are consonant with recent decisions by the Supreme Court and other courts and commissions involving natural gas companies.³³

LAWFULNESS OF PAST RATES

In 1938 the Cities of Cleveland and Akron, Ohio, filed complaints with the Federal Power Commission alleging that the rate which Hope charged East Ohio Gas Company

³³ *Federal Power Commission v. Natural Gas Pipeline Co.*, 315 U. S. ...; *Peoples Gas Light & Coke Co. v. Slattery*, 373 Ill. 31, 25 N. E. (2d) 482, 500-501, 31 P. U. R. (N. S.) 193, 217-218, App. Div. 309 U. S. 634; *East Ohio Gas Co. v. Cleveland*, 27 P. U. R. (N. S.) 387, 412, Aff. 137 O. S. 225, 28 N. E. (2d) 599, 612, 35 P. U. R. (N. S.) 158, 174-175; *Re Montana-Dakota Utilities Co.*, 32 P. U. R. (N. S.) 121, 128; See *Re Canadian River Gas Co. et al.*, F. P. C. Op. 73.

was unjust, unreasonable and unlawful. These complaints were registered before Hope filed its five interstate wholesale rate schedules which are involved in these proceedings. The acceptance of a rate schedule for filing does not mean that the Commission approves it, and does not establish the justness or reasonableness of the rate. *Re Home Gas Co.*, 39 P. U. R. (N. S.) 102, 109. On October 14, 1938, this Commission instituted an investigation of the reasonableness of all of Hope's interstate rates. If it had been possible to adduce the volume of evidence required for the disposition of such a complex matter within a few months,

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the Commission would have prescribed the reasonable interstate wholesale rates for 1939 and subsequent years. The City of Cleveland raised the issue of the lawfulness of the rate charged by Hope to the East Ohio Gas Company and asked this Commission, as an aid to State regulation, to make a separate determination of the reasonable rates since June 30, 1939. Originally the City of Cleveland requested this Commission to find the lawful Hope-East Ohio rates since June 21, 1938, but it now represents that the subject is idle for rates prior to June 30, 1939, because those rates which Cleveland consumers were obligated to pay East Ohio have been settled. The Commission does not have the authority to fix rates for the past and to award reparations. But Congress did empower and instruct the Commission in Section 5(a) of the Natural Gas Act to fix future rates, and as a step in that process we must necessarily consider the reasonableness of past and existing rates. When the issue is raised and the public interest will be served, we consider as a necessary part of that duty the power to examine the entire rate problem involved and to determine what rates were lawful in the past. Also, Section 14(a) of the Act authorizes the Commission to investigate any facts which it finds necessary in order to determine whether Hope has violated any provision of the Natural Gas Act. Furthermore, the Commis-

sion has power to perform any act, pursuant to Section 16, which is necessary or appropriate to carry out the provisions of the Act. Under Section 4(a) of the Act any interstate wholesale rate that is not just and reasonable is unlawful. *Federal Power Commission v. Natural Gas Pipe-*

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line Co., 315 U. S. Hope's rate collected from East Ohio Gas Company was lawful after June 21, 1938, the effective date of the Act, only to the extent that it was just and reasonable. The City of Cleveland states that the Ohio Commission is investigating the reasonableness of the East Ohio Gas Company's bonded retail rates in Cleveland for the period since June 30, 1939, and that the lawfulness of Hope's rate is an important factor in the case. Since the enactment of the 1938 Natural Gas Act this Commission has had exclusive jurisdiction to determine the lawfulness of the interstate wholesale rates charged by Hope and other natural gas companies.³⁴

In response to the request of the City of Cleveland, the Commission will make the appropriate findings of fact as to the lawfulness of the rates charged East Ohio by Hope since June 30, 1939. The Interstate Commerce Commission has furnished precedents for the performance of this public duty.³⁵ Congress intended that this Commission cooperate with State Commissions and municipalities, and the provisions of Sections 5(b) and 17 are special evidence of such intent.

³⁴ Sections 1, 2, 4 and 5(a). See *Missouri v. Kansas Natural Gas Co.*, 265 U. S. 298, 308; *Illinois Natural Gas Co. v. Central Illinois Public Service Co.*, 314 U. S. 498, 506; *Kentucky Nat. Gas Corp. v. P. S. C.*, 28 F. Supp. 509, 513, aff. 119 Fed. (2d) 417.

³⁵ *W. A. Barrows Porcelain Enamel Co. v. Cushman Motor Delivery Co.*, 11 M. C. C. 365, 366; *Dirie Mercerizing Co. v. ET & WNC Motor Transp. Co.*, 21 M. C. C. 491, 492. See: *United States v. Morgan*, 307 U. S. 183, 313 U. S. 409; *Lima Tel. Co. v. P. U. C.*, 98 O. S. 110, 120 N. E. 330.

REASONABLE EARNINGS AND RATES FOR THE FUTURE

Future reasonable earnings and rates must be fixed with consideration of a forecast of operating revenues and

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expenses. The most recent experience of the Company is the best guide for prognostications. The President of the Company predicted a great increase in sales for 1941 over 1940. Comparative income figures for the first quarters of 1940 and 1941 show an increase of \$592,000 in net operating income or about 20%. The increasing demands for natural gas in the industrialized areas of Hope's markets are common knowledge. It seems certain that 1940 will be the lowest year, on an earnings basis, of the 1940-1944 period. Upon a consideration of all the relevant facts in the record and the future prospects, the Commission finds that 1940 is a conservative "average" year and should be used in rate-making in these proceedings. This is a conservative basis because allowance will be made for all probable future increases in the rate base and operating expenses while the operating revenues for the relatively low year of 1940 are employed as the test in fixing rates for the future.

Applying the 6½% rate of return to the rate base for the future of \$33,712,526, produces \$2,191,314 as the amount of annual return which the Company is entitled to earn in the future. Hope's income available for return is not less than \$5,801,171, so the excess of \$3,609,857 is the sum by which existing revenues must be reduced.

Hope's gas sales revenues are classified between intra-state sales and interstate sales for purposes of determining the sales and rates subject to the jurisdiction of this Commission.

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Hope's entire properties are located within the State of West Virginia and production, transmission, compressing and general facilities are used jointly for intrastate or

local sales and interstate or export sales. Therefore, a classification or allocation is necessary to determine operating expenses and return applicable to the interstate business. Certain direct costs pertaining to distribution property and sales in West Virginia are easily segregated from the joint costs. The allocation of the remaining joint costs is made in accordance with the following facts and principles which are undisputed in the record and accepted by all parties to these proceedings.

The Company's local retail business in West Virginia is incidental to its major business of exporting gas from West Virginia. In determining the allocation of joint expenses to the local West Virginia business, this fact was given consideration, with the result that a smaller amount of expenses was allocated to that business than would have resulted by the application of one of the customary allocation methods. Briefly, the amount of joint expenses (including return) allocated to the local business was that amount which, together with the specific local expenses, would give the Company a $6\frac{1}{2}\%$ return on the net investment in property used exclusively in the local business. As indicated above, a more orthodox allocation probably would have resulted in assigning a larger share of the joint costs to the West Virginia sales and a greater amount of the excess profit, although the amount would not be material, to the interstate sales. The method used was

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proposed by representatives of the Company and was not controverted.

The following schedule (Col. (c)) shows the excess of future net operating revenue over $6\frac{1}{2}\%$ return on the interstate rate base, and Columns (d) and (e) show the prescribed rates and revenues after giving effect to the rate reduction:

Net Operating Income Available For Return

Rate Base for Interstate Sales

\$33,712,526

	M.c.f.	Before Reduction	After Reduction	
			Prescribed Rates M.c.f.—cents	Amount
(a)	(b)	(c)	(d)	(e)
Operating Revenues from Interstate Sales:				
East Ohio Gas Company	40,376,091	\$14,726,736	29.50	\$11,910,947
Peoples Natural Gas Company	9,738,612	3,457,207	28.50	2,775,504
River Gas Company	388,750	136,063	35.00	136,063
Fayette County Gas Company	859,106	270,618	28.50	244,845
Manufacturers Light and Heat Company	2,241,684	706,131	28.50	638,880
Total Interstate Revenues	53,604,243	\$19,296,755		\$15,706,239
Deductions:				
Operating Expenses		16,272,934		16,272,934
Other Gas Revenues		(83,275)		(83,275)
Allocation of Costs to Local West Virginia Sales		(2,694,075)		(2,694,075)
Total Deductions from Interstate Revenues		13,495,584		13,495,584
Net Operating Income from Interstate Sales		5,861,171		2,210,655
6 1/2% Return on Interstate Rate Base		2,191,314		2,191,314
Excess of Future Net Operating Income over 6 1/2% Return on Interstate Rate Base		\$ 3,609,857		\$ 19,341

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The Company's intrastate rates are under the jurisdiction of the Public Service Commission of West Virginia. The West Virginia Commission and the State of West Virginia are intervenors in these proceedings and no objection was made by them to the method used herein for the allocation of cost to local operations in West Virginia.

The evidence on the cost of service allocated among the five customer companies and the conditions of service for the respective companies disclose that no reduction in rates

³⁶ It is not considered necessary to refine average rates per m.c.f. more than the prescribed rates shown above and the result is the margin of \$19,341.

is applicable to the affiliated River Gas Company. Among other reasons for this determination, is the fact that the River Gas Company is a small company and has a poor load factor. Accordingly, the total amount of the reduction in interstate rates is applicable to the East Ohio Gas Company, Peoples Natural Gas Company, Fayette County Gas Company and the Manufacturers Light and Heat Company. The present average rates per m.c.f. are 36.5¢ for East Ohio Gas Company, 35.5¢ for the Peoples Natural Gas Company, 35¢ for the River Gas Company, and 31.5¢ for Fayette County Gas Company and the Manufacturers Light and Heat Company.

The conditions and characteristics of service, required by the contracts, are similar for the East Ohio Gas Company and the Peoples Natural Gas Company with respect to obligations and priorities by classes of consumers, but there is a great difference with regard to delivery pressures. Hope Company delivers gas to the East Ohio Company at sufficiently high pressures so that no additional compression is required by the East Ohio Company for de-

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livery of the gas to the ultimate consumers. On the other hand, Hope delivers gas to the Peoples Natural Gas Company, at various pressures, into that company's Brave Compressor Station and the Peoples Company must compress the gas for transportation to the ultimate consumers. From the evidence we conclude that the differential of one cent between the average price per m.c.f. for gas sold to the East Ohio and the Peoples Companies is reasonable, and it reflects the difference in the cost, conditions and characteristics of service.

Considering the cost of rendering service to the Fayette County Gas Company and the Manufacturers Light and Heat Company, and the conditions and characteristics of service to those companies, the fact that Hope knows precisely what deliveries it must make to them from day

to day and the fact that those two companies buy less than 6% of the total gas sold by Hope, the Commission finds that the rate for these companies should not be different from the rate paid by the Peoples Natural Gas Company. In the absence of compelling reasons to the contrary; it is good and desirable practice to fix rates that are uniform. Applying this principle in these proceedings the Commission will prescribe uniform rates for the Peoples Natural Gas Company, Fayette County Gas Company and the Manufacturers Light and Heat Company.

After considering all the evidence with respect to Hope's interstate wholesale rates and the proper average rates per m.c.f. for the five customer companies at the respective points of delivery, the Commission finds the fol-

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lowing rates to be just and reasonable:

	Average Rate Per. M.c.f.—Cents
East Ohio Gas Company	29.5
Peoples Natural Gas Company	28.5
Fayette County Gas Company	28.5
Manufacturers Light and Heat Company	28.5
River Gas Company	35.0

In passing, it might be noted that the over-all rate of return for 1940 ~~would have been 8%~~ if the new rates had been in effect that year and if the earnings from the distribution property had remained unchanged. This rate of return is reduced to 6½%, because of estimated increase in expenses and increase in rate base which we have allowed for the future.

Appropriate findings and order will be entered in accordance with this Opinion..

(Signed) LELAND OLDS,
Chairman,

(Signed) CLAUDE L. DRAPER,
Commissioner,

(Signed) BASIL MANLY,
Commissioner,

(Signed) CLYDE L. SEAVEY,
Commissioner.

Dated at Washington, D. C.
this 26th day of May, 1942.

(Signed) LEON M. FUQUAY,
Secretary.

City of Cleveland

Complainant

v.

Hope Natural Gas Company

Defendant

Docket No. G-100

City of Akron

Complainant

v.

Hope Natural Gas Company

Defendant

Docket No. G-101

Pennsylvania Public Utility
Commission

Complainant

v.

Hope Natural Gas Company

Defendant

Docket No. G-127

In the Matter of

Hope Natural Gas Company

Docket No. G-113

MANLY, Commissioner, concurring:

I have joined in the majority opinion of the Commission in this case, with respect to the deduction of the "depreciation reserve requirement" in preference to the depreciation reserves carried on the books of the company, because such action seems to be required by the precedent established by the unanimous decision of the Commission in the Interstate Power case.¹

In that case the depreciation reserves carried on the books of the Interstate Power Company were obviously deficient, as a result of "unsatisfactory" and "haphazard" accounting practices. They amounted to only about 21 per cent of the electric plant account. If these utterly de-

¹ *Re Interstate Power Co.*, 32 P. U. R. (N. S.) 1, 10.

ficient book reserves had been accepted as the proper deduction for depreciation in arriving at the rate base, it would have given the company an advantage to which it was not entitled and would have resulted in imposing an unfair burden on the consuming public.

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The Commission therefore, in that case as in the present case, determined on the record what the proper "depreciation reserve requirement" should be and deducted that amount in arriving at the rate base. In the Interstate case such requirement was found to be approximately 28 per cent of the electric plant account, or more than ten times the proportion carried on the company's books. In the instant case the reserves carried on the books are in excess of what the Commission has determined to be a proper reserve requirement, but the principle is exactly the same. We cannot, without discrimination, apply one principle in cases where the reserves are deficient and another where they are excessive. To do so would undermine the very foundation of utility regulation.

It may be noted also that, while many of the natural gas companies have built up excessive depreciation reserves, largely because they had no sound basis for determining the probable service life of their properties, this is not true in the electric utility industry. There it is probable, although no exact determination has been made, that a majority of the companies have established inadequate depreciation reserves. To apply the principle of deducting book reserves to the electric utility industry would therefore be grossly unfair to a large part of the consuming public.

Attention should also be directed to the fact that, until the passage of the Federal Power Act in 1935 and the Natural Gas Act in 1938, the depreciation policies of both

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the electric utilities and the natural gas companies, as regards their interstate operations, were not subject to regulation. Under such conditions, while it is true that the amounts set up on the books as depreciation reserves were derived from revenues collected from customers, they did not, as under regulation, play a determining part in fixing the level of rates and the consequent amount of the revenues. Without regulation, the good old rule of "What the traffic will bear" is controlling and depreciation policies are an afterthought, determined by the management and board of directors. It follows therefore that, during the pre-regulatory period, the customers would not have contributed any more or less to the company's revenues, regardless of what depreciation program was pursued.

Finally, it may be noted that if the Hope company in the instant case had been improvident and dissipated its earnings to such an extent that its depreciation reserves should now be grossly deficient, the utmost that the Commission could do would be to direct the deduction of a proper "depreciation reserve requirement." It is difficult, therefore, to understand how it can be argued that, because it has prudently set aside for depreciation an amount greater than such requirement, it should now be penalized in fixing its rate base. Such a policy, it seems would place a premium on improvident and wasteful management because, until the Commission has made its official determination of the reserve requirement, no one can say with as-

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urance what it should be.

If the Commission, in the years that lie ahead, consistently requires proper reserve requirements to be set up on the books of interstate electric utilities and natural gas companies, and proper annual depreciation to be set aside, the time will soon come when all such companies will be on a uniform basis and the book reserves may properly be de-

ducted in arriving at the correct rate base. If such consistent policies are not followed, regulation will inevitably collapse under the unequal strains which have been imposed.

(Signed) BASIL MANLY,
Commissioner.

Washington, D. C.,
May 26, 1942.

City of Cleveland

Complainant

v.

Hope Natural Gas Company

Defendant

Docket No. G-100

City of Akron

Complainant

v.

Hope Natural Gas Company

Defendant

Docket No. G-101

Pennsylvania Public Utility
Commission

Complainant

v.

Hope Natural Gas Company

Defendant

Docket No. G-127

In the Matter of

Hope Natural Gas Company

Docket No. G-113

SCOTT, Commissioner, dissenting; in part:

This proceeding poses such a basic problem of regulation that I am constrained to dissent in part.

The majority has found a rate base in the amount of approximately \$33,712,526, and has predicated the rates which it has prescribed upon the bases of allowing the Hope Company a return of 6 $\frac{1}{2}$ % upon that base.

Upon the record in this proceeding, I believe that the rate base for Hope Natural Gas Company can be reasonably determined not to exceed the sum of \$17,662,792.¹ Using this figure as a predicate, a further reduction of some \$1,040,000 in net revenue to Hope is clearly indicated.

¹It might even be set at a lower amount; see discussion on page two hereof.

It seems to me that this case is an appropriate one in which to establish the concept that true prudent investment in property of the utility dedicated to the public service, is a fair and proper rate base. In this regard, the recent decision of the Supreme Court in the *Natural Gas*

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Pipeline Company of America case² affords ample authority for the use of prudent investment. The problem, then, is to determine what is the amount prudently invested by the Hope Company in the properties now devoted to public service. This problem does not appear too difficult.

The total cost of plant used and useful in the public service has been found by the Commission to be approximately \$52,000,000.

The depreciation and depletion reserves, as of December 31, 1940, as shown on Hope's books, attributable to this property was approximately \$38,377,750.³ In addition, it should be noted that Hope has in the past transferred \$7,552,919 from depreciation and depletion reserves to

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earned surplus.⁴ It is unquestioned that every single dol-

² *Federal Power Commission, et al. vs. Natural Gas Pipeline Company of America, et al.*, 315 U. S. . . .; 62 S. Ct. 736.

³ The depreciation and depletion reserve per books at December 31, 1940, totals \$46,654,691. \$4,819,640 of this amount is attributable to the property of the Reserve Gas Company merged into Hope in 1939, but, as is pointed out by the majority in a footnote, the property and income of Reserve have been segregated and excluded for purposes of these proceedings. \$1,866,887 of the reserve is applicable to distribution property with which we, of course, are not here concerned. \$1,590,414 represents charges to the reserve by reason of adjustments made in plant accounts at December 31, 1938, but not recorded on the books. The book reserve, therefore, applicable to Hope's property with which we are concerned is thus \$38,377,750. The deduction of this reserve from \$51,957,416, cost as found by the majority, leaves \$13,579,666, to which is added (per the majority opinion) \$4,083,126 for net capital additions 1941, 1942 and 1943, useful unoperated acreage and working capital, making a total of \$17,662,792.

⁴ If correction be made for this transfer, the rate base would not exceed \$10,109,873.

lar in the depreciation and depletion reserves (as well as the \$7,552,919 transferred from those reserves to surplus) has been taken from gross operating revenues whose only source was the amounts charged customers in the past for natural gas. It is, therefore, a fact that *the depreciation and depletion reserves have been contributed by the customers* and do not represent any investment by Hope. Indeed, J. C. Chisler, Vice President and Treasurer of Hope, testified that it had been the company policy to retain revenues obtained through the medium of depreciation to finance and to develop its property.

The funds accumulated by such charges to operating expenses, the net total of which is represented by the amount in these reserves, have been used to build property now in service.

As was pointed out in the *Lindheimer* case:⁵

“ * * * According to the practice of the Company, the depreciation reserve is not held as a separate fund but is invested in plant and equipment. As the allowances for depreciation, credited to the depreciation reserve account, are charged to operating expenses, the depreciation reserve invested in the property thus represents, at a given time, the amount of the investment which has been made out of the proceeds of telephone rates for the ostensible purpose of replacing capital consumed. * * * ”

It is proper, of course, that depreciation and depletion reserves should be accumulated from consumer payments for service to assure that the capital embarked in the enterprise by the utility owner shall remain unimpaired. But it is an equitable corollary of the duty which rests upon the consumer that he shall not be required to pay a return on amounts which, in fact, *he, rather than the owner of the utility, has contributed.*

⁵ *Lindheimer v. Illinois Bell Telephone Company*, 292 U. S. 151, 168.

The majority has very properly pointed out that property which has been constructed by past charges to operating expense, such as well drilling and overhead charges, should not be permitted to be capitalized for ratemaking—or for any other—purposes. This is based on the simple equitable principle that the customer should not be required to pay more than once. With this position of the majority, I am, of course, entirely in accord. Moreover, I can see no distinction between property which has been constructed by the company through charges upon the consumers by operating expenses labelled, for example, “well drilling expense” and property which has been constructed by the company through charges upon the consumers by operating expenses labelled “depreciation and depletion expense.” In the latter case, equally with the former, the only amount invested by the utility owner in the business is the amount over and above the amount of property whose construction was paid for by operating expense charges. Consequently,

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if we are setting as the rate base the prudent investment by the owner in the property, we should not permit the owner a return on something which quite patently he has not invested in the property.⁶

This principle is eminently fair in practice and is certainly not new in utility regulation. For example, in the case of *Re Mondovi Telephone Company*, P. U. R. 1933B, 319, the Wisconsin Commission concluded that:

“ * * * Customers who have unwittingly been financing property additions in the manner shown [by charges to operating expenses made by the company for capital additions] should not be expected to pay

⁶ The same principle, of course, would apply to a so-called fair value rate base. In that case the only amount to be “valued” would also be the amount invested by the owner and not that amount contributed by the consumer.

rates which will allow a return on the property so paid for."

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Whether customer contributions be made directly for the purpose of building specific additions to plant or whether they be made somewhat indirectly but are likewise used for the construction of plant, there is no reason in either case why the customers, having contributed the funds to build the plant, should be required to pay to the utility company a return on the amount they have contributed.

In the *Mondovi* case the precise problem of deduction of the full depreciation reserve was also directly involved. The depreciation reserve was admittedly in excess of the existing depreciation in the property, i.e., the used-up service capacity of the property. But the Wisconsin Commission said:

"... The question now arises whether the entire [depreciation] reserve should be deducted from the property and plant account to arrive at a proper rate

"The exact facts as set out by the Commission were as follows:

"... year after year certain items of capital expenditure, notably wages of labor used in making additions to plant, were charged to operating expenses. The revenues received from subscribers, through the rates charged for service, more than covered these operating expenses, including items of expenditures for plant additions erroneously included in maintenance expense. In other words, the rates paid by subscribers were sufficient not only to pay running expenses but also to pay labor used in adding to the property. In addition, these rates provided a return enabling the company to pay dividends in every year except one during the past eighteen years, these dividends averaging just under 8 per cent on the stock outstanding during the 18-year period. The effect of including in the appraisals property so paid for and then using these appraisals in determining a rate base is to require customers to pay twice. Year after year, through these erroneous charges to operating expense, subscribers have been paying for plant additions, and now, if the appraisal values are used as a rate base, subscribers will be forced to pay a return on property already paid for by them.

"Such a result, in our opinion, would be grossly unfair."

base. Because of the fact that any excess in the reserve over and above an amount representing the used-up service capacity of the property is made up of 'involuntary' contributions on the part of the subscribers, we do not believe that the company is entitled to earn a return on property financed by such contributions.

• • • •

The majority itself has pointed out that with respect to cost of property the Supreme Court of Appeals of West

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Virginia has taken a position on consumer contributions to capital in the form of overheads which is identical with this one.⁸

Certainly the fact that not only the overheads but the direct cost, as well, of the property financed by the depreciation and depletion reserves have been contributed by the customers should emphasize the lack of equity in requiring the public to keep on paying a return on that which it has contributed to the property. There is neither fairness nor economic necessity in such a requirement.

Nor are we without specific authority of the United States Supreme Court on this exact point. In the case of *Louisiana R. R. Comm. v. Cumberland Tel. Co.*, 212 U. S. 414, the Court pointed out (p. 424):

“• • • It was obligatory upon the complainant to show that no part of the money raised to pay for depreciation was added to capital, upon which a return was to be made to stockholders in the way of dividends for the future. It cannot be left to conjecture, but the burden rests with the complainant to show it. It certainly was not proper for the complainant to take the money, or any portion of it, which it received as a result of the rates under which it was operating, and

⁸ *City of Wheeling v. Natural Gas Co. of W. Va.*, 115 W. Va. 149, 175 S. E. 399, 5 P. U. R. (N. S.) 471; *Natural Gas Company of West Virginia v. Public Service Commission*, 95 W. Va. 557, 121 S. E. 716, P. U. R. 1924D, 346. See also *Re Reedsburg Telephone Company*, 7 P. U. R. (N. S.) 389, 395.

so to use it, or any part of it, as to permit the company to add it to its capital account, upon which it was pay-

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ing dividends to shareholders. If that were allowable, it would be collecting money to pay for depreciation of the property, and, having collected it, to use it in another way, upon which the complainant would obtain a return and distribute it to its stockholders. That it was right to raise more money to pay for depreciation than was actually disbursed for the particular year there can be no doubt, for a reserve is necessary in any business of this kind, and so it might accumulate, but to raise more than money enough for the purpose and place the balance to the credit of capital upon which to pay dividends cannot be proper treatment.

• • •

What the Court there condemned is what Hope claims here.

The majority has found that \$22,328,016 is money enough for the purpose of a reserve for depreciation. It also appears from the record that Hope has accumulated \$16,049,734 more than enough for this purpose, or \$23,602,653 more than enough if adjustment be made for the transfers from depreciation and depletion reserves to surplus. This balance of approximately \$23,600,000 the majority permits Hope to place to the credit of capital upon which dividends may be paid—a result which the Supreme Court in the *Cumberland Telephone Company Case*, *supra*, unequivocally states “cannot be proper treatment.” Certainly it cannot be gainsaid that Hope has taken this portion of the depreciation and depletion money which it received as a result of the rates under which it was operating and has so used it “as to permit the company to add to its capital account upon which it was paying dividends to shareholders.” Hope has done this for practically its

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entire history. It seems to me that simple justice to the consumers demands that we follow the injunction of the

Supreme Court and call a halt to this unjustified exploitation of the public.⁹

The Supreme Court, in the *Lindheimer case*, *supra*, appears clearly to support my conclusions when it said at page 169:

“* * * But if the amounts charged to operating expenses and credited to the account for depreciation reserve are excessive, to that extent subscribers for the telephone service are required to provide, in effect, capital contributions, not to make good losses incurred by the utility in the service rendered and thus to keep its investment unimpaired, but to secure additional plant and equipment upon which the utility expects a return.”

I can find no justification whatever for permitting Hope to continue to make profits upon capital which it has required the public to contribute to its business. We, certainly, are under no constitutional compulsion or requirement to permit Hope longer to take such profits. For, as Chief Justice Stone stated in the *Natural Gas Pipeline Co. of America* case:

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“* * * The Constitution does not require that the owner who embarks in a wasting asset business of limited life shall receive at the end more than he has put into it. * * *”

Obviously, the fictional character of the company's claim of *property* permeates any suggestion of confiscation. There can be no confiscation of *property* when the prop-

⁹ The case of *Board of Public Utility Commissioners v. New York Telephone Co.*, 271 U. S. 23, is in no way contrary to this position. As was pointed out by the West Virginia Supreme Court of Appeals in *Wheeling v. Natural Gas Co.*, *supra*: “An examination of that case shows that the board of commissioners had directed the company to make up current losses out of reserves accumulated in the past. No question was raised there in regard to including property in the rate base which had theretofore been paid for out of operating expenses.”

erty claimed taken is made up of "involuntary" contributions on the part of consumers.

Over its entire history, the investors in Hope have earned extraordinarily generous returns upon their invested capital.¹⁰ The entire investment in Hope, as pointed out in the majority opinion, is represented by capital stock. From its very inception through 1940 the investors have received in cash dividends an annual average of 20% on the average amount of capital stock issued for cash or other assets.

Part of the stock of Hope now outstanding represents common stock dividends issued from time to time, and it appears that Hope has paid over its entire history average annual cash dividends of approximately 13 to 14% on all its common stock, including not only stock issued for cash or assets but also stock issued as dividends. Its depreciation and depletion reserve has been built up *after* such earnings were paid out. Obviously, a utility company

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which has existed for 43 years—through several major economic crises in the country—with such an extraordinary rate of earnings can hardly claim in any good conscience to be entitled to continue to make additional returns upon sums patently *contributed by its customers*.

The prudent investment doctrine as classically expounded by Mr. Justice Brandeis in the *Southwestern Bell case*¹¹ was designed to afford the utility investor assurance that he would always receive a fair return upon his investment and to save the consumer from being required to pay a return upon any increment above that investment. It was never intended to serve as a method by which the utility investor was to be permitted to earn a return upon funds or property contributed by someone other than himself.

¹⁰ During period 1908-1940, \$97,273,640 in cash dividends have been paid by the Hope Company.

¹¹ 262 U. S. 276, 289.

Mr. Justice Brandeis pointed out almost at the very outset of his opinion that:

“ * * * The thing devoted *by the investor* to the public use is not specific property, tangible and intangible, but capital embarked in the enterprise. * * *

“The investor agrees, by embarking capital in a utility; that its charges to the public shall be reasonable. * * *

The basic theme of the entire opinion is that the amount upon which the investor is entitled to earn is *his* investment in the utility and no more. This is so patently fair to all concerned that it should require no further comment.

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This case may seem like a hard one in which to apply this very fundamental and sound principle because of the fact that its application would result in the reduction of the rate base to a comparatively low figure. But there is no injustice in limiting the company to a return on *its investment*, while there is, on the other hand, great inequity in requiring, as does the majority, the consumers to pay a return on some sixteen to over twenty-three and a half millions of dollars which they have contributed to the building of the Hope system.

For these reasons I believe that the rate base should here be the cost of property used and useful in furnishing service, less the actual depreciation and depletion reserves attributable to such property.

(Signed) JOHN W. SCOTT,

Commissioner.

Washington, D. C.,

May 26, 1942.

4. COMPLETE LIST OF EXHIBITS BY ABBREVIATED TITLES CLASSIFIED BY SUBJECT MATTER.

<u>Exhibit Number</u>	<u>Offered By Company</u>	<u>Exhibit Number</u>	<u>Offered By F. P. C. Staff</u>
I. THE COMPANY'S PROPERTIES AND OPERATIONS.			
(A) Maps.			
1	Tonkin: Map of Hope, East Ohio, Peoples and River systems	41	Hayne: Map of Hope's system
1-A	Tonkin: Reduced scale copy of Ex. 1	41-A	Hayne: Statement explaining Ex. 41
3	Tonkin: Interval maps showing development of Hope's properties	72	Hayne: Gas flow maps
3-A	Tonkin: Reduced scale copies of Ex. 3	72-A	Hayne: Statement explaining Ex. 72

(B) Export Sales Contracts.

5	With East Ohio	47	Shattuck: Specified conditions of service in Hope's filed rate schedules
6	With Peoples		
7	With River		
8	With Fayette		
9	With Manufacturers		

(C) History of Operations.

4. Tonkin: Hope's properties, markets, sources of gas supply and development of its properties: Explanation of Exs. 1, 2 and 3 (Printed at page 103 below)

(D) Gas Sales and Other Statistics.

2	Tonkin: Hope's properties, markets and sources of gas supply, 1898-1938	48	Shattuck: West Virginia sales of 12 utilities, 1937-1939
2-A	Tonkin: Vendors' wells supplying gas to Hope	49	Shattuck: West Virginia gas purchase prices

Exhibit Number	Offered By Company	Exhibit Number	Offered By F. P. C. Staff
2-B	Tonkin: 1939-1940 statistics supplementary to Ex. 2	69	Lyon: Gas handled annually 1899-1939
2-C	Tonkin: Hope, East Ohio and Peoples' domestic and industrial sales, 1937-1941	69-A	Lyon: Gas handled, 1940
120	Moorhead: Errors in Ex. 69	70	Lyon: Annual and monthly sales, 1934-1939
120-A	Moorhead: Table 1 of Ex. 69 corrected	70-A	Lyon: Peak day sales, 1934-1939
		70-B	Lyon: 1940 supplement to Exs. 70 and 70-A
		71	Lyon: Graph of Hope's daily deliveries, 1933-1941

(E) Gas Reserves and Methods of Gas Exploration.

15	Tollefson: Remaining gas reserves of operated acreage as of Dec. 31, 1938	10	Definition of operated and unoperated acreage
15-A to 15-Q	Tollefson: Sand area maps	41	Hayne: Map of Hope's system showing "pool areas"
23	Tollefson: Methods of gas exploration	41-A	Hayne: Statement explaining Ex. 41
26	Rhodes: Leasehold costs of gas produced	43 43-A 43-B	Ross: Remaining gas reserves of operated acreage as of Dec. 31, 1938 and past production
44	Ross: Sand pool maps from Ross' working papers	51	Ross: Remaining gas reserves of operated acreage as of Dec. 31, 1939 and past production
45	Tollefson: Maps showing certain new wells drilled since 1938	51-A	Ross: Corrections to Ex. 51
46	Ross: List of dead wells on dead leases from Ross' working papers	64	Whitney-Dunn: Exploration and development costs, 1939
52	Tollefson: Map showing certain 1939 drilling	80	Ross: Analysis of unoperated acreage

<u>Exhibit Number</u>	<u>Offered By Company</u>	<u>Exhibit Number</u>	<u>Offered By F. P. C. Staff</u>
53	Ross: Differences between Ross' 1938 and 1939 total recoverable gas reserve estimates for certain pool areas		
54	Ross: Differences between Ross' 1938 and 1939 individual well total recoverable gas reserve estimates		
55	Ross: Working papers supporting Ex. 51		
(F) Miscellaneous.			
25	U. S. Dept. of Labor report on residential rates for gas in 50 cities, 1935-1939	34	West Virginia Commission letter to F. P. C. on leakage
42	Hayne: Changes in Company wells in 1939 not reflected on map Ex. 41	40	Stipulation that Hope is a natural-gas company under the Natural Gas Act
42-A	Hayne: Corrections to Ex. 41-A	50	Ryan: Typical monthly bills for domestic gas service in cities of population of fifty thousand and more
93	Tollefson: New wells drilled, purchased and drilled deeper, 1939-1941		
118	Tonkin: Future capital expenditures, 1941-1943	81	Nichols-Dunn: Corporate history

II. RATE BASE.

(A) Original Cost and Adjusted Book Cost.

11	Chisler: Balance sheet and income account, 1929-1938	20-A	Antonelli: Summary of general overheads included in original cost
20	Antonelli: Original cost of Company's properties (Printed at page 167 below)	Oral	Smith: Construction of F. P. C. code of accounts, R. 2702-2755 (Printed at page 225 below)
28*	Antonelli: Amounts originally expensed which are included in original cost	Oral	Smith: Principles of depreciation, R. 2826-2834 (Printed at page 373 below)

* Offered by Cleveland in connection with its cross-examination (R. 1434).

<u>Exhibit Number</u>	<u>Offered By Company</u>	<u>Exhibit Number</u>	<u>Offered By F. P. C. Staff</u>
59	Antonelli: Comparison of original cost with F.P.C. adjusted book cost (Printed at page 347 below)	57 & 57-A	Pace-Dunn: Original cost (adjusted book cost) (Printed at page 209 below)
60	Antonelli: Inventory of direct material and labor costs excluded in F. P. C. examiners' adjusted book cost	61	Dunn: Depreciation and depletion of gas plant at Dec. 31, 1938
89	Dunn: Estimated abandonment costs not charged to depreciation reserves	68	Nichols-Dunn: 1938 balance sheet per books, and as adjusted
98	Antonelli: Principal property purchases, 1898-1938, and method of recording on books	75	Pace-Dunn: Reconciliation of original cost per Company and per F.P.C. examiners
99	Antonelli: Data furnished F.P.C. at its request showing for major accounts costs expensed and included in the original cost	76	Dunn: 1939 additions and retirements
131*	Sullivan: Figures presented by Cleveland as to original cost less depreciation	78	Dunn: Operations data for 1940
137	Kennedy: Necessary adjustments to F.P.C. examiners' computed depreciation reserves as of Dec. 31, 1938		
138	Kennedy: Necessary adjustments to F.P.C. examiners' computed depreciation reserves as of Dec. 31, 1939		

(B) Original Cost Trended to Present Prices.

20	Antonelli: Original cost trended to 1938 prices (printed at page 167 below)	74	Gough: Report on original cost trended to 1938 prices
		74-A	Gough: Chart on price trend

* Offered by Cleveland in connection with its cross-examination (R. 6616).

Exhibit Number	Offered By Company	Exhibit Number	Offered By F. P. C. Staff
(C) Reproduction Cost New and Less Depreciation.			
16 Parts A to I	Rhodes: Inventory and reproduction cost new of physical properties as of Dec. 31, 1938 (Printed at page 143 below)	39	Rhodes: Segregation of reproduction cost new between direct and other costs
17	Rhodes: Pipe line construction unit costs	73	Bodner: 1939 pipe prices
18	Rhodes: Gas well construction unit costs	73-A	Bodner: Comparison of pipe installation cost per books with Ex. 16 installation cost
21	Rhodes: Reproduction cost new less depreciation of physical properties as of Dec. 31, 1938 (Printed at page 355 below)	123-A to D	Rhodes: Inspection sheets for four gas engines at Hastings Station
22	Rhodes: Summary of data as to accrued depreciation	140	French: 1940 pipe purchases by Manufacturers Light and Heat Co.
28	Rhodes: Corrections to Exs. 21 and 22		
113	Rhodes: Analysis of pipe prices shown in Ex. 73		
116	Rhodes: Analysis of installation costs shown in Ex. 73-A		
121	East Ohio-Cleveland 1931 stipulations on Hope reproduction cost new and less depreciation (not admitted)		
122	East Ohio-Akron 1932 stipulations on Hope reproduction cost new and less depreciation (not admitted)		

(D) Working Capital.

36	Chisler: Required working capital	62	Nichols-Dunn: Working capital
105	Chisler: Delay rentals paid and time of payment	90	Dunn: Rate of return earned on original cost base, 1937-1940

<u>Exhibit Number</u>	<u>Offered By Company</u>	<u>Exhibit Number</u>	<u>Offered By F. P. C. Staff</u>
106	Chisler: Data relating to Hope's account with Standard Oil		
(E) Miscellaneous.			
108	West Virginia Board of Public Works 1941 assessed valuation of Hope's properties (not admitted) (Printed at page 391 below)		
109	Chisler: Allocation of increased 1941 West Virginia property taxes (not admitted)		
118	Tonkin: Future capital expenditures 1941-1943		
124	Sullivan: Comparison of Company and F.P.C. examiners' claims as to costs of gas plant as of Dec. 31, 1938		

III. RATE OF RETURN.

19	Brown: Rate of return (Printed at page 394 below)	82	Knapp: Rate of return statement
		82-A	ties
		82-B	
27	Goffman: Investors' appraisal of comparative risks of capital in the natural gas business, 1937-1939 (Printed at page 422 below)		
27-A	Goffman: Investors' appraisal of comparative risks of capital in the natural gas business, 1940 (Printed at page 440 below)		
Oral	Brown: Historical rate of return, R. 5200-5229 (Printed at page 443 below)		
136	Sullivan: Weighted historical rate of return		

Exhibit
NumberOffered By
CompanyExhibit
NumberOffered By
F. P. C. Staff

IV. OPERATING EXPENSES.

(A) In General.

11	Chisler: Balance-sheet and income account, 1929-1938	12	1931 West Virginia Commission Code of Accounts
14	Chisler: Employees' thrift plan	13	1939 West Virginia Commission Code of Accounts
26	Rhodes: Leasehold costs of gas produced	58	1940 F.P.C. Code of Accounts
37	Rhodes: Rate statement, 1937-1939	64	Whitney-Dunn: Exploration and development costs, 1898-1939
38	Rhodes: Corrections to Ex. 37	67	Nichols-Reinhard-Dunn: Income statement, 1937-1939, per books and as adjusted
107	Chisler: Payroll increases not reflected in current operating expenses	77	Stipulation as to 1940 Hope-Reserve Gas Company revenues and expenses
109	Chisler: Allocation of increased 1941 West Virginia property taxes (not admitted)	78	Dunn: Operations data for 1940
110	Chisler: Cost of deep test well chargeable to 1940 expenses	92	Dunn: Income statement per books for first three months of 1940 and 1941
111	Chisler: Total property reclassification and rate case expenses	111-A	Chisler: Additional details on property reclassification and rate case expenses
125	Sullivan: Comparison of Company and F.P.C. examiners' claims on amortization of property reclassification and rate case expense	117	1923 West Virginia Commission Code of Accounts
126	Sullivan: Rate statement, 1937-1940		
130	Sullivan: Comparison of Company's and F.P.C. examiners' claims as to revenues and expenses		

<u>Exhibit Number</u>	<u>Offered By Company</u>	<u>Exhibit Number</u>	<u>Offered By F. P. C. Staff</u>
132	Sullivan: Determination of federal income taxes at past and present rates		

(B) H. C. & R. Gasoline and Butane Operations.

37	Rhodes: Rate statement, 1937-1939	63	Blease-Dunn: Revenues, expenses and net investment of H. C. & R.
91	Soyster: Hastings Gasoline Plant depreciation rate work sheet	66	Soyster: Composite service lives of H. C. & R. equipment
101	Rhodes: Remaining service lives on F.P.C. examiners' theories	78	Dunn: Operations data for 1940
112	Miller: Results of inlet and outlet tests for gasoline content at H. C. & R. plants	127	Blease: Comparison of Rhodes and F.P.C. examiners' adjustments on gasoline and butane royalties
113	Burrell: Photographs of equipment at H. C. & R. plants		
114	Burrell: Estimated average service lives for H. C. & R. equipment		
128	Gasoline extraction agreement between Hope and H. C. & R.		

(C) Price Paid by Hope for Gas Purchased from H. C. & R. and Domestic Coke Corporation.

Oral	Tonkin: Fair price for gas purchased by Hope from H. C. & R. and from Domestic Coke Corporation; R. 5787-5800	79	Lyon: Recommended price for gas purchased by Hope from H. C. & R. and Domestic Coke Corporation
129	Data furnished F.P.C. on Domestic Coke sales (not admitted)	141	Lyon: Analysis of natural gas purchased by points of receipt, 1939

Exhibit Number	Offered By Company	Exhibit Number	Offered By F. P. C. Staff
135	Sullivan: Cost of coke oven gas plus transportation costs on basis of F.P.C. examiners' figures		
(D) Annual Depreciation and Depletion Rates and Allowances.			
24	Rhodes: Necessary annual depreciation rates (Printed at page 465 below)	61	Dunn: Depreciation and depletion of gas plant at Dec. 31, 1938
37	Rhodes: Rate statement, 1937-1939	65	French: Determination of composite service lives for Hope property accounts
38	Rhodes: Corrections to Ex. 37	76	Dunn: 1939 depreciation and depletion
84	French: Working paper on formulas for computing life of pipe	78	Dunn: Operations data for 1940
85	Rhodes: Computed lives of pipe by French's formulas	142	Dunn: Comparison of depreciation and return resulting from Rhodes' and French's depreciation rates
86	National Bureau of Standard's Research paper RP 1171		
87	French: Work sheet on determination of annual depreciation requirements for gas well equipment		
88	Sullivan: Comparison of accrued depletion reserves for various pool areas on basis of various F.P.C. estimates of gas reserves		
93	Tollefson: New wells drilled, purchased and drilled deeper, 1939-1941		
94	Tollefson: Unoperated acreage within F.P.C. examiners' pool areas		

<u>Exhibit Number</u>	<u>Offered By Company</u>	<u>Exhibit Number</u>	<u>Offered By F. P. C. Staff</u>
95	Tollefson: Average ratio of metered to calculated production by working districts		
96	Tollefson: Ratio of metered to calculated production by F.P.C. examiners' pool areas		
97	Tollefson: Correction factor tabulation using Lyon's method applied to later years		
100	Rhodes: Field lines lifted with changing sources of gas supply		
101	Rhodes: Remaining service lives on F.P.C. examiners' theories		
102	Rhodes: Analysis of French's pipe corrosion formulas		
103	Rhodes: Analysis of French's pipe service life table		
104	Rhodes: French's pipe account depreciation rates corrected		
119	Tonkin: Field lines used for transmission operations		
139	Kennedy: Commission examiners' annual depreciation and depletion allowances after Dec. 31, 1938 corrected for certain necessary adjustments		

<u>Exhibit Number</u>	<u>Offered By Company</u>	<u>Exhibit Number</u>	<u>Offered By F. P. C. Staff</u>
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V. RATE STATEMENTS.

37	Rhodes: Rate statement, 1937-1939	83	Lyon: Allocation of average annual cost of service, 1937-1940
38	Rhodes: Corrections to Ex. 37	83-A	Lyon: Allocation of cost of service, 1940
36	Sullivan: Rate statement, 1937-1940 (Printed at page 479 below)	90	Dunn: Rate of return earned on original cost base, 1937-1940 (Printed at page 493 below)
33	Sullivan: Comparison of return on export business, 1937-1940, based on Company and F.P.C. examiners' claims		
34	Sullivan: Comparison of net return on rate base on Company and on F.P.C. claims using Lyon's allocation method		
31	Rhodes: Errors in allocation methods used in Exs. 83 and 83-A, R. 6368-6376		

**5. COMPANY WITNESS TONKIN'S EXHIBIT NO. 4
ENTITLED: "The Company's Properties, Markets,
Sources of Gas Supply and the Development of Its Prop-
erties: Explanation of Company Exhibits Nos. 1, 2 and
3—Written Statement of Loring L. Tonkin."**

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STATEMENT OF POSITION AND EXPERIENCE OF LORING L. TONKIN

1. Name, address and age

Loring L. Tonkin, 701 Milford Street, Clarksburg, West Virginia, age 52.

2. Education

High school, Oil City, Pennsylvania; graduated from Phillips Academy, Andover, Massachusetts, in 1908 and from Cornell University, Ithaca, New York, in 1912 with the degree of Mechanical Engineer.

3. Present position

President, General Manager and Director of Hope Natural Gas Company.

4. Experience

While attending school and college I worked every summer from 1903 to 1911 for Hope Natural Gas Company and affiliated gas companies on compressor station and pipe line construction. In June 1912 I went to work permanently for Hope Natural Gas Company serving first as Meter Engineer (1912) and successively as Assistant Engineer in the Company's compressor station department (1913-1915); Division Engineer in charge of construction and operation of compressor stations (1915-1918); Assistant Chief Engineer and Chief Gas Dispatcher (1919-1920); Chief Engineer, Assistant General Superintendent and Chief Gas Dispatcher (1920-1932); Vice President, Chief Engineer and Director (1932-1939); and President, General Manager and Director from February 1939 to date.

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In the course of my services for the Company I have from time to time had charge of substantially all branches

of its operations, including the operation and construction of compressor stations, the dispatching of all of its gas, the operation of its trunk line system, the operation of its distribution plants, the operation of its wells and of its leasing, drilling and other field activities.

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WRITTEN STATEMENT OF LORING L. TONKIN

A. Matters Covered By This Exhibit

1. The Hope Company's principal sales are as follows:

<i>To</i>	<i>1938 Sales (M.c.f.)</i>
The East Ohio Gas Company.....	30,316,773
The Peoples Natural Gas Company.....	2,870,545
The River Gas Company.....	222,615
Fayette County Gas Company.....	837,986
The Manufacturers Light & Heat Company.....	4,772,083
West Virginia domestic, industrial, field and other consumers.....	8,900,612
Total	47,920,614

2. Of these companies East Ohio, Peoples and River are wholly owned subsidiaries of Standard Oil Company (New Jersey) as is the Hope Company. Fayette and Manufacturers are not affiliated with the Company in any way.

3. There have been prepared by me or under my supervision from the books of the Company and its affiliated companies the following Company exhibits:

Co.X.1 —Map of Main Pipe Line Systems of Hope Natural Gas Co., The East Ohio Gas Co., The Peoples Natural Gas Co. and The River Gas Co.—1939.

Co.X.1A—Reduced Scale Copy of Company Exhibit No. 1.

Co.X.2 —Hope Natural Gas Company—statistics as to the Company's Properties, Markets and Sources of Gas Supply.

Co.X.3 —Hope Natural Gas Company—Interval Maps Showing the Development of the Company's Properties:

Map No. 1—1901

Map No. 2—1906

Map No. 3—1911

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Map No. 4—1916

Map No. 5—1921

Map No. 6—1926

Map No. 7—1931

Map No. 8—1936

Map No. 9—1939

Co.X.3A—Reduced Scale Copies of Company Exhibit No. 3.

Co.X.4 —This exhibit explaining Company Exhibits Nos. 1, 2 and 3.

4. This written statement will describe generally the Company's properties, markets, sources of gas supply and its operations, and will trace briefly the development of its properties, referring frequently to these exhibits by the indicated abbreviations.

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B. General Descriptions Of The Properties Shown On The Main Pipe Line System Map, Co.X.1

1. Co.X.1 (and its reduction, Co.X.1A) shows parts of the States of West Virginia, Pennsylvania and Ohio with the main pipe line systems of the Hope, East Ohio, Peoples and River Companies as of December 31, 1938 shown thereon.

2. In Ohio there is shown by dark blue lines the main transmission system of East Ohio starting at the Ohio River at Clarrington and Round Bottom Measuring Stations and running north through the Canton, Massillon and Akron area to Cleveland, with easterly lines over to the

Youngstown district and southwesterly lines from the Danville and Wooster territory. East Ohio serves about 495,000 domestic consumers located in the Cleveland metropolitan area and in the other Ohio cities shown by green dots on the map, a total of 64 municipalities.

3. In Pennsylvania there is shown in light blue lines the main transmission system of Peoples. This system supplies the Pittsburgh district with part of its gas, has an easterly extension to Altoona and Tyrone, northerly extensions into Butler, Armstrong, Clarion, Jefferson and Elk Counties and a northwesterly extension which connects with the East Ohio system at the Pennsylvania-Ohio state line. This latter is used when necessary during winter peak load periods for the delivery of Hope gas to East Ohio at the Pennsylvania-Ohio state line. During 1938 the Peoples Company had about 124,000 domestic consumers located in a portion of Pittsburgh and in the other Pennsylvania cities indicated in green on the map, and now has about 149,000 domestic consumers by reason of the merger of The Columbia Natural Gas Company with Peoples at the end of 1938.

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4. In the southeastern section of Ohio near the Ohio River are shown some scattered properties colored in maroon owned by The River Gas Company. This is a small company with about 9,000 consumers in Marietta and the other Ohio cities and villages shown in green on the map.

5. The pipe lines of the Manufacturers and Fayette Companies are not shown on C.X.1. Both are gas companies distributing natural gas in various municipalities. Manufacturers in Pennsylvania, West Virginia and Ohio and Fayette in Pennsylvania.

6. In addition to selling gas to these five companies, Hope distributes natural gas in various communities in West Virginia, serving about 42,000 domestic consumers. The Company's principal distribution plants in West Vir-

ginia are at Clarksburg, Parkersburg, Weston, Mannington, Salem and Sistersville. The small green areas marked on the map indicate the larger of these distribution plants.

7. The Hope Company's deliveries to East Ohio are made at the West Virginia-Ohio state line at two points, near Clarington and near Round Bottom Stations on the Ohio River, where Hope's lines connect with those of East Ohio. Its deliveries to Peoples are made at the West Virginia-Pennsylvania state line at a point immediately south of the Brave Compressor Station of the Peoples Company and also near the southwest corner of Pennsylvania as indicated on Co.X.1. Its deliveries to the River Company are made at the West Virginia-Ohio state line at a number of points along the Ohio River, between Parkersburg and Sistersville, but principally at Marietta, Ohio. Deliveries to the Fayette Company are made at the West Virginia-

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Pennsylvania state line at Wade Measuring Station and to the Manufacturers Company at Bates Measuring Station in northeastern Doddridge County, about 14 miles southeast of the Company's Hastings Compressor Station.

8. The properties of the Hope Company shown on Co.X.1 are its principal pipe lines, generally from 8 inch up to 20 inch in diameter, and its 47 active compressor stations. The pipe lines indicated in red, called "field lines" on the map, are the principal lines leading from a network of small gathering lines in the field to compressor stations. The lines indicated in green, called "transmission lines" on the map, carry the gas between the various compressor stations and from the compressor stations to points of delivery principally along the Ohio River and the Pennsylvania state line. The red squares indicate the Company's compressor stations, the largest being Hastings, approximately twenty miles southeast of the Ohio River. Hastings is the largest natural gas compressor station in the world.

9. The function of the Company's pipe line and compressor station system is to collect gas from its approximately 3,300 gas wells and from its 340 purchase contracts and to pump and transport that gas in a northerly direction and deliver it at the points of delivery heretofore described. Except for the local distribution systems shown by the green areas on the map and other smaller West Virginia communities these deliveries are all made to the north along the Ohio River, the Pennsylvania state line and at Bates in Doddridge County. It will be noted that the transmission system runs from the southern boundary of Boone County generally north to the delivery points heretofore noted. The pipe line distance from Clothier in Boone

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County to Clarington and Round Bottom Stations on the Ohio River is over 178 miles. Each of these principal lines shown on the map is identified by a symbol. For example, the westerly discharge line leading from Hastings Compressor Station to Clarington on the Ohio River is marked H 106-20". This means Hope's line No. H 106, 20 inches in diameter.

10. The Company's gathering lines and wells and the points of receipt of gas from contract vendors are not shown, inasmuch as on a map of this size, these lines, wells and points of delivery would show as a solid network and would make the map illegible.

11. As shown on page I of Co.X.2 the Hope Company's actual mileage of pipe lines and their 3" equivalents as of the date of this map are as follows, classified in accordance with the Company's accounting records:

	Pipe Line Miles	Miles of 3" Equivalent
Field lines	2,981	5,076
Transmission lines	1,043	4,469
Distribution lines	892	929
Total	4,916	10,474

12. A word of explanation as to what is meant by "3-inch equivalent." The diameters of these various field and transmission lines range all the way up to 20 inches. It is, of course, misleading to compare a mile of 4-inch pipe, for example, with a mile of 20-inch pipe. To have some common equivalent to which all lengths of pipe is reduced it has become accepted practice in the industry to reduce everything to a 3-inch equivalent, i.e. a mile of 6-inch pipe is considered approximately two miles of 3-inch pipe, a mile of 18-inch pipe is considered approximately six miles of 3-inch pipe, etc.

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13. As likewise shown on page 1 of Co.X.2 the Company's 47 compressor stations shown on Co.X.1 have a total installed horsepower of 93,470. As shown on page 1A, these stations vary in size from very small compressor stations located in the field, such as the Seth Station in Boone County with an installed horsepower of 180, to the Company's principal compressor station at Hastings in Wetzel County with an installed horsepower of 29,225.

14. Page 1 of Co.X.2 shows the other data as to the Company's properties which could not be shown on Co.X.1. As of December 31, 1938 it had 3,302 gas wells, 337,790 operated acres and 647,180 unoperated acres. These gas wells and gas leaseholds are widely scattered, principally through the central and northern parts of the West Virginia gas field in which the Company operates. The 340 contracts under which the Company buys gas supply gas to the Company from approximately 12,600 gas and combination gas and oil wells in addition to the gas wells owned and operated by the Company. Gas is received from these contract vendors at about 425 delivery points throughout the system with about 75% of the Company's purchased gas being delivered to it in the southern part of the system from Cabot Station in Calhoun County south.

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C. Hope's Gas Sales Obligations**(a) *Priorities in obligations***

1. The Company's distribution of natural gas in West Virginia is as a natural gas utility under the jurisdiction of the Public Service Commission of West Virginia. It serves in 22 West Virginia cities and towns, of which Clarksburg and Parkersburg are by far the largest, and in about 200 very small West Virginia communities. This local service in small cities and communities is a necessary incident of the Company's production activities. Columns (2) to (6) of page 2 of Co.X.2 indicate the extent of its sales in West Virginia, divided between domestic and commercial, industrial and field and other sales. The Company's approximately 42,000 domestic consumers in West Virginia have a primary right to be served in the event its available gas supply is not sufficient to meet all of its obligations. The Company's other sales in West Virginia are subject to curtailment in favor of domestic consumers of Hope in West Virginia and of domestic consumers of East Ohio and Peoples as hereinafter noted.

2. It will be observed from an examination of page 2 of Co.X.2 that the Company's West Virginia sales constitute a relatively small portion of its total business. All of these sales are made pursuant to rates subject to the jurisdiction of the West Virginia Commission and in accordance with the tariff schedules on file with that body.

3. The major portion of the Company's business consists of meeting its contractual obligations to East Ohio, Peoples, River, Fayette and Manufacturers, gas sold under these contracts moving out of the State of West Virginia

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into the States of Ohio and Pennsylvania except for part of the gas sold to Manufacturers. A true copy of each of the Company's present contracts with these companies, as

on file with the Federal Power Commission as rate schedules under the Natural Gas Act, is made an exhibit in this case. These contracts are as follows:

With The East Ohio Gas Company	Co.X.5
With The Peoples Natural Gas Company	Co.X.6
With The River Gas Company	Co.X.7
With Fayette County Gas Company	Co.X.8
With The Manufacturers Light & Heat Company	Co.X.9

4. The relative order of magnitude of the Company's sales under these contracts and under preceding contracts with these same companies is likewise shown on page 2 of Co.X.2. It will be observed by comparison of column (11) with the other columns on this page that Hope sales to East Ohio have for many years constituted far more than half of its total annual sales except for the years 1930 to 1934 when they dropped to about one half of the total sales. Hope's annual deliveries to the other four companies are very much smaller individually and in the aggregate than its sales to East Ohio.

5. While the terms of these five contracts are self-explanatory several general observations can be made. Under all of them Hope's first obligation is to supply the requirements of its domestic consumers in West Virginia. By its contracts with East Ohio and Peoples the Hope Company has obligated itself to supply the requirements of domestic consumers of those two companies and in case of shortage, after supplying its own domestic consumers, to

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cut them back ratably in proportion to the number of domestic consumers attached to their lines. The gas sold by Hope, East Ohio and Peoples for industrial purposes is all subject to curtailment and has been curtailed whenever necessary to meet the demands of the domestic consumers of Hope, East Ohio and Peoples. Hope's contract with River specifically makes its requirements subject to the

prior rights of the domestic consumers of Hope and to Hope's obligations to East Ohio and Peoples. Its contracts with Fayette and Manufacturers specifically subject their requirements to the prior rights of the domestic consumers of Hope, East Ohio and Peoples. In other words, whenever necessary to supply the requirements of the domestic consumers of Hope, East Ohio and Peoples, deliveries to River, Fayette and Manufacturers may be curtailed.

6. Page 3A of Co.X.2 shows the number of the domestic and commercial consumers of Hope, East Ohio and Peoples for the individual companies and in total from 1899 to 1938. It is these consumers which Hope is under a primary obligation to supply.

(b) Quantities required to be delivered

1. Generally as to the quantities of gas which Hope is obligated to deliver under these contracts, Hope has an open commitment as to both East Ohio and Peoples to supply the requirements, whatever they may be, of the domestic consumers of these companies. In practice this obligation has been interpreted to mean all the requirements of East Ohio and Peoples that they are unable to satisfy from their respective fields in Ohio and Pennsylvania. This has resulted

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in wide variations in the demands of these two companies from year to year, from month to month, from day to day, and from hour to hour.

2. In the case of River, Hope is obligated to meet the requirements of River's consumers in various Ohio cities and towns to the extent that River does not obtain its supply from other sources. In recent years Hope has supplied an average of about 30% of River's annual requirements. This is a small company and no substantial annual quantities of gas are involved, as will be seen from examining column (9) on page 2 of Co.X.2.

3. In the case of Hope's contracts with Fayette and Manufacturers, provision is made in each contract for a specified annual quantity of gas to be delivered by Hope and specified percentages of this total annual quantity to be delivered in each month and from day to day. The present Fayette contract specifies the annual quantity at 850,000 M.c.f. and the Manufacturers contract specifies the total annual quantity to be delivered by Hope at 2,500,000 M.c.f. until April 30, 1940 and at 2,000,000 M.c.f. annually during the next two years. The result is that under these contracts with Fayette and Manufacturers, Hope knows precisely what deliveries it is expected to meet annually, each month and from day to day, whereas in the case of East Ohio and Peoples these quantities are not known.

(c) *Pressure obligations*

1. In addition to the differing quantities of gas which Hope is obligated to deliver under these five contracts mention should be made of the differences in delivery

—14—

pressures. Under its contract with East Ohio, Hope is required to deliver gas at a pressure where its lines join the lines of East Ohio of at least 225 pounds and in practice for many years deliveries have been made in the winter season at pressures between 285 and 300 pounds. The final compression necessary to accomplish these deliveries occurs largely at the Hastings Station where the discharge lines to the Ohio River carry pressures up to 325 pounds. Additional deliveries by Hope to East Ohio in times of peak demand are made through the Peoples system, which connects with the East Ohio system at Petersburg south of Youngstown, Ohio. All gas sold by Hope to East Ohio is delivered to East Ohio at sufficient pressure so that it will flow through East Ohio's lines to consumers' burner tips throughout the East Ohio system. East Ohio does not further compress any of the gas it purchases from Hope. On

maximum peak days Hope delivers to East Ohio at Clarington and Round Bottom Stations on the Ohio River up to 165,000,000 cubic feet and at Petersburg around 8,000,000 to 9,000,000 cubic feet additional. On gas delivered to East Ohio at Petersburg, Hope pays Peoples a compressing and transportation charge.

2. Under its present contract with Peoples, Hope is obligated to make deliveries to Peoples at such pressure as Peoples may from time to time request and as can be maintained by Hope without increasing its pipe line or compressor station capacity. Most of the deliveries to Peoples are made at pressures varying from about 50 to 160 pounds directly into the suction lines of Peoples' Brave Compressor Station, where the gas purchased from Hope is compressed sufficiently to transmit it to Peoples' markets. In addition deliveries are made through Hope's lines H

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29-8" and H 27-10", which are connected to lines of the Peoples Company feeding into the low stage pumps at Brave Station. These low stage pumps pull the pressure on these lines of Hope down to about 5 pounds. In other words, the gas delivered through these two Hope lines is drawn out of the Hope lines and wells directly by compressors at the Peoples' Brave Station. This particular gas has to be pumped twice by the Peoples Company at its Brave Station to reach its markets. In periods of extreme demand, deliveries are also made to Peoples through Hope's line H 6-16" from Hastings Compressor Station, at state line pressures of about 100 pounds. Normally this line serves as a suction line into Hastings Station. When deliveries are made through this line to Peoples, it further compresses this gas at Brave Station to reach its markets.

3. The prices fixed in both the East Ohio and Peoples contracts contemplate delivery of gas by Hope with pressures sufficient to reach the consumers served by these two companies. Since Hope's deliveries to Peoples are not at

sufficient pressure to reach Peoples' markets and Peoples must compress the gas purchased from Hope at its Brave Compressor Station, the contract with Peoples provides for payment by Hope to Peoples of 3¢ per M.c.f. so long as Peoples maintains its Brave Compressor Station.

4. Hope's delivery pressure obligations under its contract with River read substantially like those of its contract with Peoples and in practice deliveries are made at pressures of about 35 pounds.

5. Hope's Fayette contract provides that delivery pressures will be sufficient to meet the requirements of

—16—

Fayette, which in practice has meant deliveries at field pressures of about 60 to 100 pounds at the delivery point at Wade on the West Virginia-Pennsylvania state line.

6. For several recent years Fayette has taken gas from an isolated Peoples system well in Fayette County, Pennsylvania, and Peoples has secured an equivalent amount of gas from Hope without charge over and above its contract takings. The gas so exchanged is billed as if delivered by Hope to Fayette at Wade.

7. In the case of Manufacturers, Hope's delivery pressure obligation is specified at not less than 60 pounds and in practice deliveries are made at field pressures ranging from about 60 to 70 pounds. It will be recalled that these deliveries are made at Bates in Doddridge County, West Virginia in the middle of Hope's own production system. These deliveries go immediately into the suction lines of Manufacturers' Sedalia Compressor Station which pumps this gas and Manufacturers' own local supplies for delivery in Pennsylvania and elsewhere.

(d) *In general*

1. From this brief review it will be noted that Hope's contract obligations both as to quantities and delivery

pressures vary substantially between its five major gas sales contracts, with its obligations to East Ohio and Peoples and its delivery pressures to East Ohio calling for substantially greater service than in the case of the other contracts.

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D. Annual Demands Resulting From Hope's Gas Sales Obligations

1. In view of the character of the Company's gas sales obligations, particularly its open-end obligations to East Ohio and Peoples, it is apparent that the extent of the demands upon the Company's system must be determined by an analysis of what has actually happened in addition to what the Company's various contracts say. This analysis requires an examination of the statistics as to both the annual demands upon the Hope Company's system and the peak load demands. This portion of this exhibit deals with the annual demands upon the Company's system and the next portion will discuss the peak load problem.

2. Co.X.2 at pages 2 to 9 sets forth the statistics as to these annual demands both in statement and chart form.

(a) Annual demands from West Virginia consumers

1. On page 2 of Co.X.2 there is shown the number of West Virginia consumers of Hope, the amount of gas sold in West Virginia for various purposes and in column (6) the total West Virginia sales, for the 40-year period 1899 to 1938. It will be noted from columns (2) and (3) that the number of domestic and commercial consumers as well as the amount of domestic and commercial sales has gradually increased over the years and Hope now supplies annually about 4½ billion feet to its own 42,000 consumers.

2. Column (4) shows the West Virginia industrial sales of Hope. In 1921, due to the depression of that year, industrial sales fell sharply. They did not again reach their pre-1921 level until 1936 and 1937. These West Vir-

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ginia industrial sales are largely steady load gas, principally because of the glass and some other similar industries whose normal operations are continuous.

3. In column (5) it will be noted that from 1902 to 1908 Hope's West Virginia field sales were very large, reaching a peak of 20 billion feet in 1904. They have now declined to less than 1 billion feet per year. In the boom period of oil and gas exploration in West Virginia large amounts of gas were sold in the field for drilling operations. It was burned in huge quantities under boilers. With the boom period over, there is no longer the demand for this gas in the field.

4. Column (6) shows Hope's total West Virginia sales. The relatively small proportion of Hope's total sales represented by these West Virginia sales appears from a comparison of columns (6) and (12). The chart on page 3 of Co.X.2 illustrates these figures, the various shades of blue representing the Company's various West Virginia sales.

(b) *Annual demands from Manufacturers and Fayette*

1. These two companies both belong to the Columbia Gas & Electric group. The only precise statistical information Hope has available as to them is its sales to each of these companies. Published reports, however, show that Manufacturers secures the greater part of its supply from sources other than Hope. Hope's yearly sales to these companies are set forth in columns (7) and (8) on page 2 of Co.X.2 and in graph form on page 3. It will be noted that the annual sales to Manufacturers were rather steady

—19—

ily around 9 billion feet from 1910 to 1915, both inclusive; then for two years were at 14 billion feet; for two more years at 12 billion feet; for two more years at 11 billion feet; for the succeeding ten years from 1922 through 1931

they were around 10 billion feet and in recent years have been from approximately 7 to 5 billion feet. It will also be noticed from column (8) that Hope's sales to Fayette County Gas Company follow a similar uniform pattern, the sales of the last ten years being less than 1 billion feet each year.

2. The reason for this consistency in groups of years is that the quantities to be delivered by Hope each year to Manufacturers have always been fixed in advance under the contract. The same situation has been true of the Fayette deliveries for many years. In the case of East Ohio and Peoples, however, Hope's obligation is to supply the requirements of their domestic consumers whatever these may be. A glance at the chart on page 3 of Co.X.3 will show that this open obligation to East Ohio and Peoples has produced great fluctuations up and down over the years in the sales by Hope to East Ohio and Peoples.

(c) *Annual demands from River*

1. The River Company was not physically connected with the Hope Company's lines until the year 1910 in which year Hope made its first deliveries to River. Co.X.2, pages 2 and 3, shows that Hope's annual sales to this small company have always been a minor portion of its total business.

2. In Co.X.2, page 4, is set forth the statistical information as to the amount of gas handled year by year.

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by the River Company and the source of that gas. It will be noted that while the River Company procured the major part of its supply from Hope down to and including the year 1921, since that time it has procured the bulk of its supply from its own production and purchases and that in the year 1938 it purchased from Hope less than $\frac{1}{4}$ billion feet. This same data is shown in chart form on page 5 of Co.X.2.

(d) ~~Annual demand from~~ Peoples

1. While the Peoples Company had been in business since 1885 it was not until 1904 that its lines were connected with those of Hope and deliveries of West Virginia gas began. The general territory in which Peoples operates has already been described. It had on December 31, 1938, nearly 124,000 (now by consolidation with another company, 149,000) consumers attached to its lines and in the last five years has handled an average of 17 billion feet annually of which 22% was purchased from Hope.

2. In Co.X.2, page 6, is set forth the total amount of gas handled by Peoples from 1903 to 1938, both inclusive, and the amount and percentage of that gas purchased from Hope and produced and purchased in Pennsylvania. This data is shown in chart form on page 7. Note that this Peoples chart is shown in billions of cubic feet per year, as is the subsequent East Ohio chart, whereas the preceding River chart was shown in millions of cubic feet.

3. Column (4) of page 6, Co.X.2 shows that the demand upon Peoples for gas was generally upward from

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1903 until it reached a peak in the year 1916. In that year Peoples marketed almost 41 billion feet. From this point Peoples' sales dropped in three years to less than 26 billion feet and following the depression of 1921 remained in the neighborhood of 20 billion feet until the depression of 1931. From 1931 to 1935 they dropped to 15 billion feet or less, went up to nearly 21 billion feet in 1937 and in the year 1938 were again 15 billion.

4. Peoples' maximum annual sales in 1916 and for a year or two before and after were caused by the industrial demands of the World War when other fuels were both expensive and difficult to obtain. Over half of the gas sold in this period was for industrial fuel purposes.

5. Reference to column (3) shows that the amount of gas produced and purchased in the Pennsylvania fields

has varied widely from year to year. The discoveries that have been made in Pennsylvania over the years have not been as large as those that occasionally occurred in East Ohio's territory hereinafter discussed, but they boosted the Pennsylvania production available to Peoples from a low of $8\frac{1}{2}$ billion in 1911 to a high of 20 billion in 1920, and have maintained an average of about 15 billion for the three years 1936-1938.

6. The effect of declining sales after 1916 plus the additional discoveries in the Pennsylvania fields is shown in column (2). Hope's deliveries to Peoples reached a peak of 26 billion in 1916, declined to $6\frac{1}{2}$ billion in 1919 and have further declined in the last fifteen years to less than 4 bil-

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lion. The decline from 1916 to 1919 and for a few years thereafter was in part caused by the inability of Hope and Peoples to supply fully the industrial demands of that period.

7. The decline in Hope's annual sales to Peoples from over 26 billion feet in 1916 to $6\frac{1}{2}$ billion feet in 1919 was a reduction of $19\frac{1}{2}$ billion feet. This decline was made up of $4\frac{1}{2}$ billion feet increase in the quantity of gas taken by Peoples from the Pennsylvania fields and the remaining 15 million feet was a reduction in Peoples' sales as well as those of Hope. Since the World War period Peoples has been able to supply a larger percentage of its total requirements from the Pennsylvania fields than theretofore, with the result that Hope's annual sales to Peoples in recent years have ranged from 3 to 4 billion feet per year.

8. The percentages of Peoples' annual supply purchased from Hope shown in column (5) vary widely from year to year. Beginning with the first full year that Hope was supplying Peoples, viz. 1905, they show a range from 73% furnished in 1912 to 5% furnished in 1925. Taking the 36-year average Hope has supplied Peoples with 38.7% of its total annual requirements, but in the year 1938 sup-

plied less than 19% of its annual requirements. Under present conditions it is anticipated that Peoples will require larger annual deliveries from Hope than for some time in the past unless immediate discoveries are made in the Pennsylvania fields.

9. The graph on page 7 of Co.X.2 shows at a glance the large purchases made by Peoples from Hope between 1906 and 1918, the decline in those purchases since that

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year and the increased quantities of gas obtained by Peoples from other sources than Hope between the years 1913 and 1931 and again from 1935 to 1937.

(c) *Annual demands from East Ohio*

1. East Ohio was Hope's first and has always been its largest customer. Both companies were organized in 1898, at which time East Ohio accepted its first franchise for distribution of gas in the City of Akron, Ohio. Other franchises followed soon after and at the present time East Ohio distributes natural gas in Cleveland, Akron, Canton, Massillon, Youngstown and other Ohio municipalities, in all over 60, and has almost 500,000 domestic consumers connected to its lines. In the last three years East Ohio has handled annually an average of about 47 billion feet of gas of which Hope has supplied 70%.

2. Page 8 of Co.X.2 shows the total amount of gas handled by East Ohio during the 40-year period 1899 to 1938 both inclusive, and the source of its supply. Page 9 shows this same information in graph form.

3. Attention is called first to the total amount of gas handled by East Ohio shown in column (4) on page 8. It will be noted that the quantities of gas handled by it each year increased rapidly and continuously from 1899 to a peak in the year 1916 when it handled 64 billion feet. In the next few years its sales dropped until for the past

20 years its sales have fluctuated from a low of 35 billion in 1932 to a high of 50 billion in 1937, the average for this period being over 42 billion feet.

4. In column (5) is shown the per cent of East Ohio's annual demands met by Hope deliveries and in column (6)

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the per cent met by production and purchases in the Ohio fields. From column (5) it will be noted that down to the year 1913 Hope was practically the sole source of supply for East Ohio; that two years later in 1915 Hope supplied only 38% of East Ohio's requirements, the balance coming from the Ohio fields; that in the following year Hope supplied 70% and until about the year 1927 continued to supply about 75% or more at which time the percentage supplied by Hope again began to decline, reaching a low of 51½% in 1932. Since that time it has increased until it is now again approximately 70%.

5. These two low points in East Ohio's demand on Hope in 1915 and again in 1932 illustrate one of the hazards of a producing natural gas company, dependent upon distant and fluctuating markets, such as Hope is. As shown by column (3) East Ohio had no Ohio production or purchases of any consequence until the year 1913. At that time a large field of gas was discovered in Lakewood immediately adjacent to the City of Cleveland. It was developed largely by independent operators drilling on very small plots of ground with the result that the field was quickly developed and was quickly depleted. In 1914, the second year of the Lakewood field, East Ohio took in Ohio nearly 18 billion feet and the next year over 32 billion feet. Although its demands in these years, as shown in column (4), had constantly increased, the result of these large purchases in Ohio was to reduce purchases from Hope from 32 billion feet in 1913 to 20 billion feet in 1915.

6. After the flush production of the Lakewood field had been taken, East Ohio continued to obtain from the

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Ohio fields about 10 billion feet a year down to and including 1926. In 1927 a field known as the Franklin-Jackson field in Summit and Stark Counties was discovered. This field reached its peak in 1932 in which year East Ohio took 17 billion feet from the Ohio fields. Annually from 1929 to and including 1937 it has taken around 15 billion feet from the Ohio fields. In 1938 it took 12½ billion feet in the Ohio fields.

7. The effect of the discovery of this Franklin-Jackson field on Hope's sales to East Ohio is shown in column (2). In 1929 East Ohio called upon Hope for 32 billion feet but in 1932 for only 18 billion feet, a decrease of 14 billion. More significant still, East Ohio's demand declined 12 billion feet between 1929 and 1932, shown in column (4), while its purchase and production of Ohio gas increased 2 billion feet, shown in column (3). In other words, while East Ohio's market declined 12 billion feet in those 4 years it did not place this loss of market proportionately upon the Ohio gas and the Hope gas but increased its takings of Ohio gas and thus threw on Hope not only the entire shrinkage in the market but further curtailed Hope by several additional billions of increased takings from the Ohio fields. This aggravated the natural decline in Hope's business due to depression years.

8. Taking the average of the 40-year period East Ohio has been dependent upon Hope for its supply to the extent of 73.3% and was dependent upon Hope in the year 1938 to the extent of 70.7%.

9. Reference to the graph on page 9 of Co.X.2 shows at a glance the effect of the tremendous production obtained

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from the Lakewood field for a short time following the year 1913. It also shows the more gradual building up of the Ohio supply that followed the discovery of the Franklin-Jackson field in 1927. Actually these two discoveries from

a point of view of total volume are more nearly of equal weight than this graph would indicate. The Lakewood field was exploited wastefully and rapidly as a town lot development. Accordingly it quickly rose to a peak in 1915 and as quickly declined. On the other hand the Franklin-Jackson field was developed principally by East Ohio itself and one or two other large operators. The development was sound and economical with the result that the gas was drawn out steadily over a long period of years without waste.

(f) *Total annual demands on Hope*

1. Page 2 of Co.X.2 is a summary of both the total sales and total gas handled by Hope for the years 1898 to 1938, both inclusive; page 3 shows the same data in graph form. Column (12) of page 2 shows the total sales and the preceding columns the classification of those sales. Columns (13), (14) and (15) show the quantities of gas that the Company produced annually but which was not sold. This consisted of free gas to lessors where leases so provided, gas used by Hope in its own operations for drilling, operating compressor stations, etc. and leakage or unaccounted for gas which has been estimated in column (15) for each of the years. These totals added to the actual sales give the total quantity of gas handled.

2. Referring to the total sales of Hope in column (12) the peak year of 1916 is immediately apparent. It is also

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apparent from pages 6 and 8 that Hope did not get its share of the increasing demands of 1914 and 1915. These demands were much larger on East Ohio than those of 1913. Yet Hope's sales in both 1914 and 1915 were materially less than in 1913. As already explained this was principally due to additional discoveries in Ohio. The tremendous decline in Hope sales between 1916 and 1919 stands out sharply.

3. The effect of the world-wide depression that began in 1930 and has continued intermittently since that time is clearly shown in column (12). Hope sales in 1932 and 1933 were a little more than 37 billion, rising from that to nearly 59 billion in 1937 but again declining to 48 billion in 1938.

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E. Daily Demands Resulting From Hope's Gas Sales Obligations

1. As heretofore indicated, under its public service and contractual obligations the Hope Company's first duty is to supply the domestic consumers of itself in West Virginia and of East Ohio and Peoples in Ohio and Pennsylvania. It has an open-end commitment as to these consumers and it is therefore important to an understanding of the Company's business and its actual obligations to know the character of the domestic demands upon Hope as distinguished from other types of businesses.

2. The outstanding characteristic of this domestic business is that it fluctuates widely from day to day with the weather and can only be determined to the extent that temperatures and wind velocities can be predicted. While annual industrial demands vary with general business activity, they are comparatively steady, day by day, and predictable in advance for current operating purposes. Principally by reason of the domestic demands the Company's actual sales obligations vary more widely on an hour to hour and day to day basis than on the annual basis heretofore discussed.

3. By way of illustration of this general situation, which is self-evident to natural gas men working in the Appalachian field, the charts on pages 10, 11, and 11A of Co.X.2 have been prepared. Page 10 shows the approximate day by day sales by Hope and East Ohio to the domestic and industrial consumers of these two companies for the year 1936. The combined East Ohio and Hope ap-

proximate daily industrial sales are shown by the light lines at the bottom of the chart and the approximate daily

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sales to domestic consumers by the black lines on the top of the chart. Page 11 shows the same type of statistics for the year 1938 and page 11A for the six months ended January 31, 1940. It might be noted that the East Ohio estimates reflected on these pages are based on inputs into the East Ohio system and a subtraction of estimated daily industrial sales, field sales and gas used in operations from the total inputs to ascertain the approximate daily sales to domestic consumers. This method considerably understates East Ohio's sales to domestic consumers on days of extreme demand. On such days part of the deliveries to consumers are of gas previously packed into the lines at high pressures which pressures fall as greater and greater demands are met.

4. Generally it should be observed that the year 1936 was a year of larger annual sales for both Hope and East Ohio than the year 1938 as will be apparent from columns (12) on page 2 and (4) on page 8 of Co.X.2.

5. From the chart for 1936 on page 10 it will be seen that generally during the first six months of that year the industrial demand on Sunday of each week did not vary greatly from 60 million M.c.f. On Mondays this demand rose to about 70 million. On Tuesday, Wednesday and Thursday, it held between 70 and 80 million. On Friday the demand dropped back to below 70 million, and on Saturday to between 40 and 50 million. The pattern for each week is the same. On only three days during these six months, including the very severe weather of January and February of 1936, did it exceed 80 million feet.

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6. During the last half of the year 1936 the pattern is much the same and the quantities are the same except that somewhat increased industrial activity is indicated by the

fact that on some week days of the last three months of the year the demand rose slightly above 85 million.

7. For the year 1938, shown on page 11 of Co.X.2, the pattern of industrial demand each week is again the same, although the industrial demands throughout that year were lower than in 1936. In the first half of 1938 it was only an occasional day when the demand exceeded 60 million. This situation continued until the fall of that year when the demand increased slightly but reached 80 million on only one day.

8. The domestic demand on the other hand varied widely from month to month and from day to day. As shown on page 10, on February 18, 1936 the domestic demand was around 180 and on February 19 it was 185 million although February 25 it was only 105 million, a drop of 80 million per day in less than a week.

9. If we compare the week beginning February 16, 1936, with the week beginning August 16, 1936, immediately below it on the chart, page 10, it will be observed that the industrial demand was about the same day for day in August that it was in February, beginning at about 55 million on Sunday, rising to 70 on Monday and holding there on Tuesday, Wednesday and Thursday, declining to about 60 million on Friday and to 40 million on Saturday. The domestic demand, however, for August on Sunday, the 16th, was only 30 million compared with 135 for the corresponding Sunday in February. On August 17, it was 55 compared with 140 in February. On the 18th it was be-

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tween 55 and 60 compared with 180 million. On the 19th it was 50 million compared with 185. On the 20th it was 55 million compared with about 170. On the 21st it was 45 compared with 170 and on the 22nd it was 55 compared with 165.

10. Taking these corresponding weeks in February and August in their totals, the domestic demand for the

week in August was 350 million and for the corresponding week in February was 1150 million or over three times as great. The totals of these same weekly demands in February and August for the industrial consumers were about the same.

11. As to the temperatures prevailing during the years 1936 to 1938, the months of January and February of 1936 were much colder than January and February of 1938 and it will be noted from a comparison of the charts at pages 10 and 11 that the demand for domestic gas was much greater in these months during 1936 than in similar months during 1938.

12. The most recent severe cold spell experienced by the Company occurred in January 1940 and the chart appearing at page 11A of Co.X.2 shows the estimated daily sales to domestic and industrial consumers by Hope and East Ohio for the six months ending with January 1940. For the last two days of December 1939 and for January 1940 these figures exclude sales by Hope which were formerly made by Reserve Gas Company whose properties Hope acquired on December 30, 1939.

13. Comparing January, 1940 on page 11A with January and February, 1938 on page 11 and January and February, 1936 on page 10, it will be observed that East Ohio's and Hope's total daily sales to domestic and industrial consumers reached greater peaks and with more fre-

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quency in January, 1940 than in either the comparatively mild winter of 1937-1938 or the extremely cold winter of 1935-1936. For example on at least six days in January, 1940 the combined domestic and industrial sales exceeded 260 million cubic feet whereas 260 million cubic feet was approached only once in the periods covered by the preceding charts, namely on January 23, 1936 as shown on page 10.

14. Comparing the black bars in these charts, which show the combined domestic sales of the two companies, it will be observed that the demands of domestic consumers were substantially higher in January, 1940 than during the last severe cold spell during January and February, 1936. During 1936 the combined domestic demand never exceeded 200 million cubic feet. On January 19, 1940 it exceeded 225 million cubic feet. Actually, as noted above, both the 1936 and 1940 sales to domestic consumers on peak days were considerably larger than the figures shown on the charts by reason of the fact that the East Ohio domestic estimates are based on input figures and do not take into account gas sold from line pack. Thus on January 18, 1940 East Ohio's system inputs were about 230 million cubic feet, whereas a study of meters measuring gas going into East Ohio's city distribution plants indicated total sales on this day were about 242 million cubic feet.

15. The chart on page 11a again illustrates the comparative steadiness of industrial demands as between the winter and the summer months and the extremely fluctuating character of domestic demands which was commented upon above in connection with the 1936 chart on page 10. Also attention might be called to the fluctuations that oc-

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cur in domestic demands even during such cold months as January, 1940. On January 13 the combined East Ohio and Hope domestic demand was only 114 million cubic feet, this being on a Saturday. On the following Friday, January 19, the domestic demand exceeded 225 million cubic feet.

16. As later explained, so great were the demands of domestic consumers during the period January 18 to January 21, 1940 that East Ohio had to curtail drastically its sales to industrial consumers, and it was only by such curtailment, the industrial curtailments by Peoples and the curtailment by Hope of Manufacturers that the demands

of domestic consumers were met. The light bars for January 18, 19, 20 and 21, 1940 on page 11A show the effect on industrial sales of this curtailment.

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F. Method of Operating Hope's Properties

1. The Hope Company's properties have been developed and are operated to meet its gas sales obligations as heretofore described. As will be apparent, its operating problems and the extent of the gas supply which it must have available are dependent not only upon its annual delivery obligations but upon the varying daily and hourly demands which it must meet.

2. As heretofore stated, the demands which Hope is obligated to supply come generally from two classes of consumers, domestic and industrial. Industrial demand does not vary with the weather but with industrial conditions. Thus in years of great industrial activity such as 1916, 1929 and 1937 it is relatively high and conversely in periods of industrial depression such as 1921 and 1932 it is low, but at all times it is fairly uniform throughout the seasons and from week to week.

3. The domestic load on the other hand depends on the weather. As noted above, through June, July and August of each year it is a fairly steady load for cooking, hot water heating and refrigeration that does not vary widely from day to day, but during the balance of the 12 months, and particularly in the wintertime, it increases or diminishes rapidly. Freezing temperatures and a high wind off Lake Erie cause instant demand from East Ohio's domestic consumers for all the gas that Hope lines can carry. So with falling temperatures and winds in Western Pennsylvania. A few days later the wind dies down, more moderate temperatures prevail and the demand on Hope goes off accordingly.

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4. Hope may thus be called upon to handle on a peak day more than 325 million cubic feet and a few days later be handling only two-thirds of that amount and in the summer following less than one-fourth that amount.

5. These demands that may rapidly increase and as rapidly diminish must be met by turning on and turning off wells in the producing fields. In order that Hope's methods of keeping itself informed as to these varying demands and of operating its properties to meet them may be understood some discussion of its operating methods are necessary.

6. Hope's main office is in Clarksburg, West Virginia. From this office all field operations are directed. Located there are gas dispatchers on duty 24 hours of each day throughout the year. Their duties are extensive.

7. Hope has its own telegraph and telephone system and the dispatchers are in touch at all hours of the day and night not only with every part of Hope's system but with many points of consumption on the Peoples and East Ohio systems.

8. It is the gas dispatcher's responsibility to order wells owned by Hope turned on and off as the fluctuating load on the Company's system demands. When there is needed more gas at points of delivery the dispatcher likewise orders on additional engines in the various compressor stations so as to increase the amount of gas flowing through the system.

9. As an illustration and referring to the map, Co.X.1 and 1A, if the gas dispatcher at Clarksburg finds that he needs additional gas coming into Hastings Station he may order more compressors started in Smithburg, Schutte

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and Jones Station to increase the flow of gas to Hastings. At the same time he will have to start more engines at Hastings to get the gas away to Cleveland. When he orders

compressors on at Jones, for instance, ordinarily he would also order more wells turned into the lines in the vicinity of Jones in order to supply the Jones Station engines with sufficient gas to pump. The same is true of the 47 stations in the Hope system which are handled the same way.

10. On a hard pull the dispatcher has practically all the engines and all the compressor stations on the Hope system running. Then when the weather moderates the dispatcher has to reverse the whole process, shut down the compressor station engines and take off wells in the field. He will frequently take hundreds of wells off the line in one day due to warm weather coming in the middle of the winter, and a few days later put them all back on. In other words he must meet from hour to hour and day to day the demand coming on the entire system and frequently these changes in demand come with little, if any, advance notice.

11. Hope's producing territory in West Virginia is divided into 15 working districts, each having its own headquarters. During the daytime the gas dispatcher can get in touch with the district office to order wells on and off. During the night there are at least two or three men in each district who have Company telephones in their homes where the gas dispatcher can get hold of them and these men can get in touch with the well tenders and get their men out. In winter full crews are maintained at compressor stations. Every compressor station on the system that

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is operating reports to the gas dispatcher at Clarksburg every hour of the day and night telling how many engines are running and the suction and discharge pressures and the pressures carried on each engine. The dispatcher can thus tell at all times what the pressures are on the entire system and whether his orders to start or stop engines have been carried out.

12. The gas dispatcher also at all times knows the number of wells on the line and where these wells are located. If he orders 100 wells on in a certain district the district headquarters immediately sends out men to turn these wells on and as soon as they are on the line the district reports back to the dispatcher stating the wells that are then feeding on the line. In the same way wells are turned off and reported back to the dispatcher. In consequence he knows at all times how many wells he has feeding into the system.

13. Hope, of course, has not the same control over the wells of its vendors. With the exception of its first contract with Godfrey L. Cabot in 1918 in which uniform daily takings throughout the year were required, its major gas purchase contracts call for certain deliveries in the wintertime and for lesser amounts in summer, usually one-half to one-third as much. These deliveries are in both instances in nearly uniform daily amounts, i.e. a uniform amount during the winter season and a uniform amount during the summer season. On the average about 60% of the Company's purchased gas is taken in the winter and about 40% in the summer. In consequence the dispatcher at Clarksburg knows just about how much purchased gas

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on any day is coming into the system and he uses Hope's own production which alone is fully under his control to make up the difference between this purchased gas and the demand.

14. The gas dispatcher also not only gets hourly reports from the compressor stations as above stated but he also receives reports of the pressures at Clarington and Round Bottom on the Ohio River, at Price Farm and Gross Farm along East Ohio's system and at Dunham and Richardson Stations at Cleveland. He also gets the pressures at Gross Farm for East Ohio's lines running east to Youngstown. Hourly reports as to temperatures at Cleve-

land and Pittsburgh are likewise wired to the dispatcher, as well as the Weather Bureau's daily forecast for these cities, which are transmitted to him as soon as received.

15. When these hourly reports show pressures dropping, for example on the East Ohio system, the dispatcher immediately has Hastings start up more compressors to increase pressures at Clarington and Round Bottom. When he does this he necessarily starts more engines in compressor stations in the field and turns on more wells in order to get more gas to Hastings. He does the same thing with respect to the Peoples system, getting pressure reports not only from Brave Station but also from Pittsburgh. He likewise watches pressure conditions on the Hope system at various points of distribution.

16. The gas dispatcher thus has the responsibility from hour to hour of routing the gas supply to the points which have the greater need for gas. For instance if he finds there is a more severe pull on the East Ohio system

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than on the Peoples system, he can switch more gas toward Hastings, or in case East Ohio is not pulling so heavily on the gas supply, he can switch additional gas to the Peoples Company. Also, for example, if Parkersburg is making a hard pull on the gas supply, the gas dispatcher can divert certain compressor stations to the use of the Parkersburg system and, when this Parkersburg demand declines, he can turn these compressing stations around by manipulation of gates so that they will pump to Hastings Station. It also is the gas dispatcher's duty, in cases of apparent shortages of gas, to carry out the decisions of the operating officials as to ordering factories turned off and curtailing deliveries to the purchasers who are subordinate to the primary rights of the Hope, East Ohio and Peoples domestic consumers.

17. The Charts, pages 12 to 16 of Co.X.2, indicate the approximate daily gas requirements upon the Hope system.

(exclusive of free gas to lessors) supplied respectively by produced and purchased gas for the period July 1935 to the end of January 1940, both inclusive. Each block of seven vertical lines is a week beginning with Sunday. The light lines toward the bottom of the chart show the amount of purchased gas each day and the solid black lines the amount of gas produced by Hope from its own wells.

18. It will be noticed at once from the upper half of the chart on page 12 for the period July 1935 through June 1936, that the amount of purchased gas was fairly uniform at about 70 to 80 million feet of gas per day until the end of October at which time it increased to about 120 million feet per day. During the great pull on Hope's system in late January and in February it increased to around

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140 million and remained at about 130 million in March and April. May 1st the reduced summer takings began.

19. This change between the winter takings of purchased gas and the summer takings is characteristic of practically all Hope's major contracts which provide for smaller takings in summer than in winter. Generally in May, June or July Hope tries to get the scheduled summer deliveries out of the way as rapidly as possible in order to cut down during August when it will be noted deliveries dropped below 80 million per day. In the latter part of September and in October Hope attempts to make up any deficiency existing in summer deliveries. On November 1st winter deliveries are again resumed.

20. This system of having fairly regular deliveries each day from vendors requires the Hope production system to meet all of the fluctuations up and down of the total demands above this purchased gas and makes very large fluctuations in the amount of Hope's own gas that is sold from day to day.

21. For example it will be noted from the chart on page 12 that the amount of Hope's own production during

the months of July, August and September, 1935, was sometimes more than 75 million feet in one day and was sometimes practically zero. Also, it varied widely from day to day.

22. About January 23, 1936, for a period of a month Hope was faced with a most serious peak load situation caused by sub-zero temperatures in the Appalachian regions and it is perhaps worthwhile to take time to notice how it met those demands.

23. It will be noted from the chart on page 12 that as late as January 19 the total demand on the Hope system was about 200 million feet per day which was met by about

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125 million purchased gas and 75 million produced gas. On January 23 the demand rose to about 290 million feet which was met by about 140 million of purchased gas and 150 million of produced gas. On January 27, and again on January 31, the demand was practically 300 million feet, of which 140 to 150 million was purchased and the balance produced. Then on February 19 the demand rose to 308 million feet, of which 143 million was purchased and 165 million produced. It should be noted that 3 days before, to-wit February 16, the demand was less than 220 million and 4 days later the demand was 200 million. In this period of excessive demand in late January and well through February, 1936, Hope did procure some slight help from its gas purchase contracts, deliveries of purchased gas being slightly increased during that period. But the major fluctuations up and down had to be met by Hope's own wells which were called upon to deliver as high as 165 million feet a day although six days later they were delivering less than 55 million.

24. Hope had to meet an unusual condition on January 22, 1936. At one o'clock in the morning of that day the temperature was 28° above zero in Cleveland with just a

normal winter load on the Hope system. The temperature rose to 32° at 4:00 A. M., held around there until 7:00 A. M. and then dropped 11° in two hours. At about that time Hope received word that a severe storm with lower temperature was headed toward Cleveland. By 6:00 P. M. the temperature had dropped to 4° below zero and at 10:00 P. M. it was 10° below. The same thing happened at Pittsburgh. This storm hit the two communities unexpectedly with only a few hours notice and it was necessary for Hope to call its well tenders late in the afternoon and have them work all night in a blizzard turning on wells.

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25. On page 17 of Co.X.2, is shown day by day the number of Hope's wells, the wells available for use, i.e. not undergoing repair, below line pressure or otherwise unavailable, and the wells in use, i.e. turned into the line, during the winter of 1935-1936. It will be noted from column (7) that on January 21 Hope had 2,438 active wells turned into its lines. In the afternoon of the 22nd it called out its well tenders, had them work all night and on January 23 had 3,296 active wells on the line out of a total of 3,317 wells available for use. It will further be noted from the remaining figures in column (7) and those in column (10) that Hope kept substantially all available wells on the line until February 23 when the cold snap had abated and for the rest of the winter all demands were met by less than 2,500 wells.

26. The demands upon the Hope system shown by the succeeding charts, pages 13, 14, 15 and 16, never at any time exceeded 272 million feet per day until January, 1940, shown by the chart on page 16. As a matter of fact all the winter weather there shown until January, 1940, was moderate and less severe than normal.

27. During January, 1940, the Company was required to meet demands upon its system more severe than even those of January and February, 1936. On January 18,

1940, due to sub-zero temperature accompanied by stiff winds in Cleveland, Pittsburgh and elsewhere, the total demands upon the Company's system, exclusive of its sales obligations under the former Reserve Gas Company contracts, for the one day exceeded 323 million. This was

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the greatest demand made on the Company's system since the World War period. This demand was met by 148 million feet of purchased gas and 175 million feet of produced gas from Hope's own wells, exclusive of the former Reserve Gas Company's wells. Even so, in order to meet the demands of domestic consumers, it was necessary for East Ohio and Peoples to curtail industrial users in Ohio and in the Pittsburgh district. Sales by East Ohio to both large and small industrial consumers were severely curtailed from Friday, January 19, to Monday, January 22, 1940, at which time the severe weather had somewhat abated. On January 19 East Ohio's curtailment and shut off orders affected deliveries to about 60 industrial plants. During this same period Hope's deliveries to the Manufacturers Light & Heat Company were curtailed.

28. The chart on page 16 shows this January, 1940 situation graphically and the tabulation of wells on page 22 which covers the entire year of 1939 plus January, 1940, indicates how all available Company wells were turned into the line and kept there continuously during the severe demands of January, 1940 in order to meet the Company's obligations to the extent they could be met. In particular the figures for January, 1940 on the chart at page 16 should be compared with those for July, 1939 appearing immediately above. This comparison illustrates both the tremendous differences as between the summer demands and the cold winter demands which the Company must be prepared to supply, and the manner in which winter peaks must be met from its own producing wells.

29. This method of meeting the Company's obligations which has been described—relying upon purchased gas for

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rather steady deliveries from day to day and calling upon Company produced gas to make up the fluctuations in the total demand both up and down—is one of the operating difficulties and business hazards of the natural gas business. It is not normally possible to make favorable gas purchase contracts in West Virginia unless the buyer agrees to take regular deliveries of gas from the seller. The independent gas producer who has no public utility obligations makes his investments in leases and wells with the idea of recovering as much gas as rapidly as possible. He is not interested in conserving his supply for peak loads or in deferring deliveries. To propose to him a contract that he deliver gas in accordance with the extremely varying daily, monthly and annual requirements of Hope's business would not interest him at any reasonable price.

30. The consequence is that the large purchasers of gas in the West Virginia field are required to make a firm commitment for all the gas produced by the independent producer, with sometimes a maximum daily commitment, and to continue those purchases during the life of the wells. The only recognition of varying demands that the buyers have been able to procure is the variation between the winter and the summer takings.

31. It should also be pointed out that the independent producer operates his own wells. If Hope were dependent upon him to increase production rapidly in times of peak demand there would be no way of insuring his compliance with any such obligation. To turn on wells for a few days of peak demand is costly and requires the maintenance of

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a separate organization for this purpose. An independent operator has no incentive for incurring these additional costs or for selling in such an irregular market.

32. It has therefore become customary in the natural gas industry for those companies that have public utility obligations for service to take care of the fluctuations in demand from their own producing fields. This enables them not only to meet peak demands promptly but to buy gas from an independent operator at a lower price than they otherwise would be required to pay.

33. At present Hope must hold itself in readiness at all times to meet a peak demand of 325 million feet or over, exclusive of the former Reserve Gas Company sales. From its contract vendors it can count on about 165 million feet. The balance of 160 million or more must come from its own wells. This means on winter days when the demand is for 200 million, Hope can sell only 35 million of its own gas and must hold in reserve 125 million feet for days of larger demand.

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SIGNED at Clarksburg, West Virginia, this March 19, 1940.

LORING L. TONKIN.

**6. COMPANY WITNESS RHODES' EXHIBIT NO. 16-A
ENTITLED: "Reproduction Cost New of Company
Properties as of December 31, 1938—Written State-
ment of George I. Rhodes and Summary"**

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Craig	225

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TRANSMISSION PLANT (continued)

Account 354-2 Compressor Station Equipment
(continued)

Compressor Stations:

Davis	1
Deep Valley	18
Ellenboro	33
Evans	46
Fink	63
Goff	80
Hastings No. 1 (Gas)	95
Hastings No. 1 (Steam)	104
Hastings No. 2	191
Hawkins	228

PART G [Not Printed]

TRANSMISSION PLANT (continued)

Account 354-2 Compressor Station Equipment
(continued)

Compressor Stations:

Hazel Green	1
Indian Creek	15
Jackson	29
Jones	75
Kinsey	104
Lemley	117
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TRANSMISSION PLANT (concluded)

Account 354-2 Compressor Station Equipment
(concluded)

Compressor Stations:

Minnora	1
Payne	15
Peora	31
Russett	48
Salem	62
Sardis	80
Schultz	103
Schutte	118
Seth	135
Smithburg	150
Turner	170
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STATEMENT OF EXPERIENCE AND QUALIFICATIONS OF GEORGE I. RHODES

1. Name, address and age

George I. Rhodes, 239 Forest Avenue, Glenn Ridge,
Essex County, New Jersey; age 56.

2. Education and professional societies

Massachusetts Institute of Technology (B. S., 1905).
Member of American Gas Association, American Society
of Civil Engineers, and American Society of Mechanical
Engineers and Fellow of American Institute of Electrical
Engineers.

3. Present position

Vice President and Director of Ford, Bacon & Davis,
Inc., an independent firm of engineers that has been en-
gaged since 1894 in the design, the supervision of con-
struction, the construction itself and the operation of in-
dustrial properties, natural gas properties and other pub-
lic utility properties; as well as in valuation work and the
preparation of reports relating to cost estimates for pro-
posed construction, for proposed corporate mergers, and
for sale and purchase of properties and of reports relat-
ing to other general engineering and corporate matters;
also Vice President and Director of Ford, Bacon & Davis
Construction Corporation, a wholly owned subsidiary, en-
gaged directly in the construction of such properties.

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The firm in addition to design and construction work
has made valuations of more than \$8,000,000,000 in prop-
erties in the last twenty years of which more than \$1,250,-
000,000 have been gas properties. Among its important
clients other than utilities and affiliates of Hope Natural
Gas Company have been:

American Locomotive Company
American Radiator Company.
American Rolling Mills Company
American Smelting & Refining Company
Armstrong Cork Company
Atlantic Refining Company

Borden Company
Botany Consolidated Mills, Inc.
Cities Service Oil Company
Crane Company
Endicott Johnson Corp.

General American Tank Car Corp.
General Cable Corp.
Ingersoll-Rand Company
B. B. & R. Knight Corp.

National Lead Company
National Refining Company
North American Cement Corp.
Pennsylvania-Dixie Cement Corp.
Phillips Petroleum Company
Plymouth Oil Company
Pure Oil Company

Quaker State Oil Refining Corp.
Remington Arms Company, Inc.
John A. Roebling's Sons Company
Scott Paper Company
Socony-Vacuum Oil Company, Inc.
Solvay Process Company
Susquehanna Silk Mills

Texas Corporation
Tide Water Oil Companies
Union Carbide & Carbon Corp.
United Air Lines Transport Corp.
United States Steel Corp.
Winchester Repeating Arms Company
Worthington Pump & Machinery Corp.

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United States Government:

War Department
 War Industrial Board
 Alien Property Custodian
 Emergency Fleet Corporation
 Reconstruction Finance Corporation
 (Loaned Chief Engineer for 2 years)

United States District Courts of:

Colorado, Delaware, Illinois,
 Louisiana, New Jersey,
 Southern District of New York,
 Western District of Pennsylvania,
 Eastern District of Pennsylvania

State of Louisiana, New Orleans Port Commission
 State of New Jersey, State Tax Board
 New Jersey Port and Harbor Development Commission
 Port of New York Authority
 Cook County, Ill. (Chicago), Department of Highways
 Suffolk County, New York, water supply department

City of Chicago, water supply department
 City of Indianapolis, municipal gas department
 City of Los Angeles, municipal power and water departments
 City of New York, Tax Commission
 City of Philadelphia, Department of Transit
 City of Seattle, Department of Lighting

4. Employment and experience other than in the natural gas business

(a) Summers while a student at Massachusetts Institute of Technology, surveyor in water works construction and laborer in public utility construction.

(b) 1905-6—Instructor in Electrical Engineering Laboratories of Massachusetts Institute of Technology.

(c) 1906-1911—Motive Power Department of Interborough Rapid Transit Co., New York, N. Y., at time of termination of employment being electrical engineer, having charge of all electrical design and, in addition, the construction and operation of all underground conduit and cable facilities of the motive power department of that company.

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(d) 1911-1917—Consulting engineer in the Boston office of White Weld & Co., investment bankers, examining and reporting upon properties financed or about to be financed, or in respect of which changes in securities deposited under collateral mortgages were required or contemplated; and, in addition, participating in the executive direction of construction, development and operation of certain gas and electric properties controlled by or operated under the direction of one of the partners of that firm.

(e) 1917 to date—With Ford, Bacon & Davis, Inc., having general charge of all preliminary reports and estimates of proposed projects, all design and all construction work carried out by that firm, giving particular attention to power systems, both steam and hydro, to industrial plants and to bridges, in addition to the natural gas work outlined below.

5. Experience in the natural gas and allied businesses

In 1923, made an estimate of the gas reserves of the Monroe (Louisiana) Gas Field, as a result of which financing was arranged for the construction by Ford, Bacon & Davis, Inc. of the natural gas burning power station of Louisiana Power & Light Co., consuming more than 20,000,000 cubic feet per day.

Working cooperatively with an associated Vice President, E. O. Hill shared responsibility with him in various degrees in all natural gas development work carried out

under the direction of Ford, Bacon & Davis, Inc. and Ford, Bacon & Davis Construction Corp., included in which are the following:

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Edmonton, Alberta, complete natural gas system, preliminary reconnaissance, design, supervision of construction and operation of completed property.

Monroe to New Orleans pipe line system with *Compressor stations, preliminary reconnaissance, purchase of gas reserves, design, construction and the operation of completed system.

Amarillo to Denver pipe line system with gasoline plant and compressor stations, *preliminary reconnaissance, design, supervision of line construction, actual compressor station and gasoline plant construction and the operation of completed system.

Monroe to Memphis and Jackson, Tennessee pipe line system construction.

Monroe to Eldorado (Arkansas) pipe line system construction.

*Monroe to St. Louis pipe line system *preliminary reconnaissance and *construction of pipe lines.

*Monroe to Atlanta pipe line system with compressor stations, *preliminary reconnaissance, *design, *supervision of line construction and *actual compressor station and *Mississippi River crossing construction, and the operation of completed system.

*Amarillo to Chicago pipe line system, preliminary reconnaissance, designs and costs estimates for one group of its promoters.

*Kansas section of Amarillo to Chicago pipe line *construction.

Illinois section of Amarillo to Chicago pipe line construction.

*El Paso to Douglas, Arizona and Cananea, Mexico pipe line system with compressor stations, *preliminary reconnaissance, *design and *supervision of construction.

- *Amarillo to Kansas pipe line system, *design and *cost estimates of possible system contemplated to serve large part of State of Kansas.

- *Amarillo to East St. Louis gasoline pipe line system with pumping stations, *design and *inspection of construction.

- East Texas oil field to Shreveport oil pipe line construction.

Note: *Had prime responsibility on items marked with an asterisk. Associated Vice President E. G. Hill had prime responsibility on other items.

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- Charleston, West Virginia to Kentucky state line, a liquid propane pipe line, design and construction.

- Toledo to Detroit gasoline pipe line construction.

- Philadelphia to Reading, Pennsylvania gasoline pipe line construction.

- Other miscellaneous natural gas, gasoline and oil pipe lines, primarily construction, aggregating several hundred miles in length.

The properties and parts of properties so constructed under the direction of Ford, Bacon & Davis, Inc. cost more than \$125,000,000. In the case of certain of the properties included in the above costing more than \$60,000,000 the operating organizations were built up and the properties operated by Ford, Bacon & Davis, Inc. for various periods of years.

Since the fall of 1935, have been principally engaged on matters relating to valuation, cost determinations and analysis of operations of natural gas properties.

For ten years or more have given particular attention to pipe line corrosion problems and resulting depreciation. Also made intensive technical, electrical and mathematical studies of corrosion phenomena as related to the life of pipe lines and have cooperated with the United States Bureau of Standards in such matters.

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WRITTEN STATEMENT OF GEORGE I. RHODES**1: Employment By Hope Natural Gas Company**

Ford, Bacon & Davis, Inc., was employed to determine the reproduction costs new and less depreciation of the properties of the Company for the purpose of the proceedings before the Federal Power Commission in which this exhibit is presented. It has in recent years made such determinations of cost of properties of the Company in connection with rate cases of The East Ohio Gas Company, an affiliated company, before the Public Utilities Commission of Ohio.

From the beginning of the present work I have been in responsible charge of it. The detail work has necessarily been done by a staff of engineers, accountants and clerks.

The principal engineers and accountants comprising this staff are regular employees of Ford, Bacon and Davis, Inc. Their number exceeded 30 at times of greatest activity when field and office work overlapped. They were assisted by upwards of 40 others engaged for the purpose. Regular employees of the Company have assisted on matters where special familiarity with the records or the property was needed to carry out the work. This staff began work in March, 1939 and has been continuously engaged since in preparing the data and making the estimates described and summarized in this exhibit.

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This exhibit gives the results of this determination of reproduction cost new and the inventory of the properties included in the determination and is divided into nine parts as follows:

PART A: Written Statement and Summary

PART B: Natural Gas Production Plant:

Account Nos. 330-1, 330-4, 330-5; 331-1,
331-2, 331-3 and 332-1

PART C: Natural Gas Production Plant:

Account Nos. 332-2, 333-1, 333-2, 334 and 337

PART D: Transmission Plant:

Account Nos. 351-12, 351-23, 352-2, 352-3, 352-4 and 353

PART E: Transmission Plant:

Account No. 354-2

PART F: Transmission Plant:

Account No. 354-2 (continued)

PART G: Transmission Plant:

Account No. 354-2 (continued)

PART H: Transmission Plant:

Account Nos. 354-2 (concluded), 354-3 and 354-4

PART I: General Plant:

Account Nos. 370, 371, 372, 373, 374, 375, 376, 377, 378 and 379

Reproduction cost new less depreciation is set forth in a separate Company exhibit.

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2. The Properties of the Company Covered by This Reproduction Cost Determination

The properties and operations of the Company are fully described in Exhibits Nos. 1, 2, 3 and 4 by Mr. Loring L. Tonkin, President of the Company, and these property descriptions need not be repeated here.

The reproduction cost estimate set forth in this exhibit includes the properties of the Company which comprises its production and transmission plants and jointly used general plant, with the exceptions here noted. It excludes natural gas leaseholds and rights, working capital and going concern value. It excludes the pipe lines, compressor station and related properties used to transport coke oven gas purchased from Domestic Coke Corporation which is used by the Company as boiler fuel in connection with its natural gas operations. It also excludes those properties, includ-

ing distribution and general, used solely for distribution of gas in West Virginia.

The items of property covered by this estimate have been classified by the Company in accordance with the new uniform system of accounts for gas utilities prescribed by the Public Service Commission of West Virginia, effective January 1, 1939. This classification is similar to the uniform system of accounts for natural gas companies adopted by the Federal Power Commission, effective January 1, 1940. In this exhibit such classification by the Company has been adopted and the summary shows the new account numbers. For reference purposes the summary also shows the corresponding old account numbers under the West Virginia uniform system of accounts which became applicable to the Company on January 1, 1923.

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3. Inventory of the Properties Covered by This Reproduction Cost Determination

The inventory of the operating units of the Company's properties used in this reproduction cost determination is as of December 31, 1938 and is the inventory prepared for use in connection with the determination of original cost under the new West Virginia classification of accounts.

This inventory is based on the Company's investment ledgers and other records, including those of the accounting department, those of the engineering and geological departments and those of the operating departments, and was coordinated and verified as necessary by field checks, inspections and surveys. In the process of verification use was also made of a detailed inventory of the Company's properties as of June 30, 1931 which was made and agreed upon in the 1931 *East Ohio-Cleveland* rate case before the Public Utilities Commission of Ohio by engineers representing the City of Cleveland, engineers of the Ohio Commission and Ford, Bacon & Davis, Inc., representing The East Ohio Gas Company.

Each operating unit of property was identified as to description and dimensions on the books and records of the Company and where necessary by engineers in the field. The several Company records relating to each such unit of property were compared and adjustments made for errors where found. Where appropriate the former agreed inventory relating to each such unit of property was checked in the field and was adjusted in detail to reflect all additions and removals from June 30, 1931 to December 31, 1938. An extensive field check was made of agreed quantities of work

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entering into the construction of many units of property as shown in the 1931 inventory, as a result of which these quantities were found satisfactory for determining the reproduction cost of the property.

All the Company's major lines had been surveyed as a matter of Company record. The actual lengths of 265 miles of other pipe lines were determined by measurements to verify the Company's records. These new surveys confirmed the substantial accuracy of the Company's records relating to these lines.

Inventories of buried equipment such as valves and fittings in pipe lines and in compressor station yards were made from records and drawings and verified in the field to the extent possible. They could not of course be uncovered for measurement or detailed count. In making such inventories the identifiable groups of valves and fittings in necessary use were listed and details making up such assemblies were used in accord with accepted Company and industry practice.

The inventories so prepared and checked constitute the basis of the original cost determination referred to above and the basis of the reproduction cost determination here presented. The inventories in both cases are identical as to operating units of property.

4. Basic Procedure Followed in This Reproduction Cost Determination

This reproduction cost estimate of the Company's properties included in the inventory determined as set forth above is that which would be incurred through its reproduction for a newly-organized independent corporation as a major construction operation on a three year construction program. The estimated cost of raising the funds to pay for such construction has not been included.

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The cost of reproduction is that applicable to the inventory of the Company's property as it existed on December 31, 1938 with labor rates and material prices those prevailing during the winter of 1938-1939 and with labor and equipment performances those of current experience. Since that time the level of these rates and prices has remained substantially the same.

The general methods of construction commonly used in large developments were applied in determining the reproduction cost of the Company's property. The Company would purchase all materials such as pipe, well equipment and compressor station equipment, etc. entering permanently into the construction, except building materials and like details. All such major materials would be delivered to contractors at nearest railroad sidings and the contractors would make the installation. In all building and miscellaneous construction, however, the contractors would furnish materials as well as labor. The installation of field meters and regulators and like detailed work closely associated with placing the property in operation would be carried out by the Company's own forces.

Material and equipment prices used are those quoted by manufacturers or vendors for materials and equipment of the specifications and quality used in the actual construction of the property. Prices were requested reflecting actual sales prices at the best discounts for materials and

equipment in the quantity required and reflecting the full purchasing power of an adequately financed construction operation of the size involved. Where equipment was no longer being manufactured as specified the costs of superseding equipment at lowest quoted prices of competent

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manufacturers were used as a basis of pricing. Wrought iron pipe was priced as steel pipe. Well casing used as pipe was priced at the price per pound of line pipe, which is lower than that of casing.

Freight rates on material were equalized to average destination of that material so that in the priced inventory like items of equipment in different locations are priced at the same cost.

The labor rates used were the result of an extensive investigation of wages prevailing before and after the end of 1938 in construction work and in industry in and about the territory occupied by the Company's property.

Based on that investigation the labor rates used were chosen as those required to provide the number of men necessary to carry out the construction program, estimated to reach about 13,000 at the peak of construction. The wages of common labor which dominate in the cost of constructing a natural gas property were taken at 45 cents per hour. Appropriately higher wages were taken for semi-skilled and skilled labor, straw bosses, working foreman, foreman, etc., all in accordance with the practices of the construction industry.

Unit costs were developed to reflect the construction conditions prevailing in the territory occupied by the Company's property as determined by an extensive field survey made for the purpose. The use of construction machinery was included wherever economical. These unit costs were developed for a considerable number of types of buildings and of classes of equipment and assemblies which were given identifying numbers. Reference to these types and

classes by number appear in the priced inventory opposite each item to which they were applied.

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In the priced inventory there are no allowances for contingencies and omissions other than those included in the unit costs. The unit costs of specified items of machinery and equipment are the costs as quoted by manufacturers plus freight to average points of delivery and an allowance for miscellaneous material costs described below. The other unit costs involving labor alone or labor and material were developed from basic operations by the use of methods described below in appropriate sections covering each of the several major classes of property. The typewriting of unit cost developments has been omitted in the interest of brevity but such developments are available for examination in convenient form in the working papers.

In the unit cost developments the cost of insurance related to payrolls is included as labor cost at rates quoted by insurance agencies effective as of the inventory date. There are similarly included as labor cost, federal and state unemployment insurance taxes and federal old age benefits tax.

Included in the development of the unit costs are allowances for miscellaneous material costs and miscellaneous labor costs to reflect those costs necessarily incurred and contingencies met in the actual construction work over and above the cost of the specified items of material and hours of labor. As related to materials these miscellaneous costs arise from causes such as purchasing, expediting shipment and checking receipt of materials, and ware house activities as required, together with loss, damage and wastage of materials and other contingencies. As related to labor these miscellaneous costs arise from causes such as bad weather and other contingencies affecting performance, the

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use and wastage of tools, the use of equipment, and the field office and supervisory costs. Contractors' allowances were made cover the contractor's West Virginia gross income tax, general overheads, insurance against abnormal risks and a margin of profit.

* * * * *

[Detailed explanation of determination of unit costs for various types of properties omitted.]

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11. Undistributed Construction Costs

In addition to the costs incurred by the construction forces there are other costs relating to the project as a whole rather than to its separate parts which are as necessary as the payments for material installed and the wages of laborers.

These general or undistributed construction costs arise principally from (a) the engineering work necessary to design, supervise and inspect construction, and to test, check and turn over to the management an operative plant, (b) preliminary investigations and reports on the project, nego-

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tiations with the public authorities and others with respect to permits, taxes, and other matters, expenses in connection with the receipt and disbursements of funds and accounting therefor, payment of insurance and taxes applicable to the construction period, the assembling of an operating organization and many other costs, and (c) interest on the money expended for construction of the various parts of the project until they can be put into operation.

These general costs may also include the cost of assembling the funds required for construction, but no provision for such costs is included in the reproduction cost now set forth in this exhibit.

In the 1931 *East Ohio-Cleveland* rate case before the Public Utilities Commission of Ohio these undistributed

construction costs were the subject of conferences between engineers representing the City of Cleveland, engineers of the Ohio Commission and engineers of Ford, Bacon & Davis, Inc., representing The East Ohio Gas Company. These engineers finally agreed upon the following to be added to the reproduction cost new of the priced inventory of the property of the Hope Natural Gas Company:

Preliminary organization expense	0.5%
Engineering and superintendence during construction	4.5
Administrative and legal expense during construction	2.0
Taxes during construction	2.0
Interest during construction	8.0

The last item, of course, was to be applied to the total of the priced inventory and the other undistributed construction costs above stated. In the aggregate the allowance thus amounts to 17.72%.

A similar agreement was later entered into in the 1932 *East Ohio-Akron* rate case before the Ohio Commission.

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That Commission itself used the undistributed construction costs for the Hope Natural Gas Company's property above set forth in the 1932 *East Ohio-Akron* case and the 1937 *East Ohio-Cleveland* case.

In view of the repeated use of the above allowance by engineers representing the various parties to rate controversies involving this same property and by the Ohio Commission in its findings relating thereto, the same allowances have been used here. While my own experience and the experience of Ford, Bacon & Davis, Inc. in construction work of this kind indicates that these allowances on the whole understate the full amount of undistributed construction costs that would be actually incurred upon a reproduction of this property, nevertheless I have adopted them in the aggregate as the minimum over-all allowances that are required.

12. Cost of Developing the Property as a Going Concern.

All of the elements of cost described above relate solely to the construction of the bare bones of the physical property or plant of the Company. They include no amounts whatsoever for the costs involved in the negotiation of gas purchase and sales contracts or for the costs of seasoning of the property and the development of an efficient operating organization. Neither do they include any of the other additional costs which arise during the period required to develop the full use of the property. In the development of a new property as a major operation all of such costs are experienced and funds must be provided from some source to meet these expenditures. Nevertheless the cost of reproducing the property of the Company set forth in this exhibit contains no allowance for the cost of establishing the property of the Company as a going concern over and above the bare cost of its construction or any other of the allowances commonly referred to as going concern value.

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13. Summaries.

The estimated cost of reproduction new as of December 31, 1938 of the production and transmission properties of the Company, together with its general properties used jointly in the production, transmission and distribution of gas, all as described above, are set forth in detail in the priced inventories which constitute Parts B to I of this exhibit. These costs are summarized by accounts in the statement on the following pages of this Part A which shows:

Hope Natural Gas Company
Estimated Cost of Reproduction New as of
December 31, 1938

Natural Gas Production Plant

(exclusive of leaseholds and properties
used to transport coke-oven gas)

\$50,167,205

Transmission Plant

(exclusive of properties used to trans-
port coke-oven gas)

29,131,101

General Plant (Jointly Used)

(exclusive of properties used to trans-
port coke oven gas)

1,379,451

Total of Above

\$80,677,757

Undistributed Construction Costs

14,296,099

*Total Natural Gas Production Plant,
Transmission Plant and General
Plant (Jointly Used)*

(exclusive of leaseholds, properties
used to transport coke oven gas,
working capital and going concern
costs or value)

\$94,973,856

SIGNED at Clarksburg, West Virginia, this May 6,
1940.

GEO. I. RHODES.

HOPE NATURAL GAS COMPANY

Natural Gas Production Plant, Transmission Plant and General Plant (Jointly Used)
Estimated Cost of Reproduction New as of December 31, 1938(Exclusive of Leaseholds, Properties Used to Transport Coke Oven Gas, Working Capital
and Going Concern Costs or Value)

SUMMARY BY ACCOUNTS

Account Nos.

Old	New W. Va. P. S. C.	Description	Total Cost
Natural Gas Production Plant			
(exclusive of leaseholds and properties used to transport coke oven gas)			
204	330-1	Natural Gas Producing Lands	\$ 2,275
206	330-4	Rights of Way	772,814
204	330-5	Other Land and Land Rights	91,045
210	331-1	Gas Well Structures	11,912
209	331-2	Field Measuring and Regulating Station Structures	58,922
210	331-3	Other Production System Structures	374,267
211	332-1	Producing Gas Wells—Well Construction	19,321,139
212	332-2	Producing Gas Wells—Well Equipment	10,874,199
213, 214	333-1	Field Lines	17,282,312
215, 217	333-2	Field Measuring and Regulating Station Equipment	307,222
216	334	Drilling and Cleaning Equipment	1,028,888
219, 251, 256, 257	337	Other Production Equipment	112,910
Total Natural Gas Production Plant (exclusive of leaseholds and properties used to transport coke oven gas)			\$50,167,205

Transmission Plant

(exclusive of properties used to transport coke oven gas)			
218	351-12	Land	\$ 155,842
220	351-23	Rights of Way	554,352
221, 223	352-2	Compressor Station Structures	1,957,473
222	352-3	Transmission System Measuring and Regulating Station Structures	14,842
223	352-4	Other Transmission System Structures	12,507
226	353	Mains	16,500,288
224	354-2	Compressor Station Equipment	9,874,271
225	354-3	Transmission System Measuring and Regulating Equipment	30,731
249, 251, 256, 257	354-4	Other Transmission System Equipment	30,795
Total Transmission Plant (exclusive of properties used to transport coke oven gas)			\$29,131,101

General Plant (Jointly Used)

(exclusive of properties used to transport coke oven gas)			
244, 245	370	Land and Land Rights	\$ 75,018
247, 248	371	Structures and Improvements	297,298
249	372	Office Furniture and Equipment	210,047
252, 253, 256	373	Transportation Equipment	166,990
251	374	Stores Equipment	180,110
251, 256, 257	375	Shop Equipment	10,304
254, 257	376	Laboratory Equipment	3,971
257	377	Tools and Work Equipment	5,365
253	378	Communication Equipment	419,860
249, 257	379	Miscellaneous Equipment	1,488

Total General Plant (Jointly Used) (exclusive of properties used to transport coke oven gas)

\$ 1,379,451

Total of Above

\$80,677,757

Undistributed Construction Costs

14,296,099

Total Natural Gas Production Plant, Transmission Plant and General Plant (Jointly Used)

(exclusive of leaseholds, properties used to transport coke oven gas, working capital and going concern costs or value)

\$91,973,856

7. COMPANY WITNESS ANTONELLI'S EXHIBIT NO. 20 ENTITLED: "Original Cost and Original Cost Trended to 1938 Prices of the Company's Natural Gas Production Plant, Transmission Plant and General Plant (Jointly Used) Existing at December 31, 1938—Written Statement of Peter Antonelli"

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STATEMENT OF EXPERIENCE AND QUALIFICATIONS OF PETER ANTONELLI**1. Name, address and age**

Peter Antonelli, 592 Bard Avenue, Staten Island, New York; age 47.

2. Education

Crane Technical College, Chicago, Illinois; Cornell University, Ithaca, New York (M.E., 1919).

3. Present position

Member of the staff of Ford, Bacon & Davis, Inc., 39 Broadway, New York, New York.

4. Experience and qualifications

Upon graduating from Cornell University, I became employed by Ford, Bacon & Davis, Inc. and have been so continuously from that time. My work for this firm has been of an engineering and investigating nature, involving the examination of all kinds of operating properties such as power and light, steam, water, oil and manufactured and natural gas. I have specialized in natural gas work of all kinds and have done a great deal of valuation work. This valuation work has involved the preparation of field inventories, inspection of properties for determination of their condition, development of unit costs, conducting research into labor performances on various construction enterprises, especially pipe lines, investigating basic material prices, analysis of direct material and labor overheads and general overheads and analyses and determinations of

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the original cost of properties. I have assisted in making preliminary investigations into the possibilities of pipe line construction, made preliminary estimates and the like.

The companies for which I have done work of the foregoing nature include the following:

Amarillo Gas Company
Arkansas Natural Gas Company
Arkansas Pipe Line Corporation
Atlantic Refining Company
Carpenter Steel Company
Central Hudson Gas Company
Coffeyville Gas & Fuel Company
Columbia Gas & Electric Corporation
Commonwealth & Southern Corporation
Consolidated Gas Company
Corning Light & Power Company

Dalhart Gas Company
Dayton Power & Light Company
Dominion Tar & Chemical Company
Duquesne Light Company
East Ohio Gas Company
Empire District Electric Company
Fredonia Gas Company
Hardin Wyandot Lighting Company
Hope Natural Gas Company
Kansas City Gas Company

Logan Gas Company
New York Steam Corporation
Niagara Lockport & Ontario Power Company
Ohio Producing Company
Oklahoma Natural Gas Company
Ouachita Natural Gas Company
Paducah Water Company
Pennsylvania Electric Company
The Peoples Natural Gas Company
Potter Gas Company
Puget Sound Power & Light Company

Sinclair Consolidated Oil Company
Southern Natural Gas Company
Standard Oil Company of Indiana
Standard Plate Glass Company
Tri-State Gas Company

United Fuel Gas Company
Union Carbon & Carbide Company
Western Ohio Public Service Company
Winchester Repeating Arms Company

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WRITTEN STATEMENT OF PETER ANTONELLI /

1. Matters Covered By This Exhibit

This exhibit sets forth the original cost of the production system, the transmission system and general properties of Hope Natural Gas Company as these properties existed at December 31, 1938, excluding those properties, both distribution and general, used solely for the distribution of gas in West Virginia. It explains the methods followed in determining this original cost. This exhibit also shows the original cost of these properties trended to 1938 prices, namely the original cost adjusted to the labor rates and material prices prevailing in 1938, and explains the methods used in determining this trended original cost.

On January 1, 1939 there became effective and applicable to the Company a new Uniform System of Accounts for Gas Utilities prescribed by the Public Service Commission of West Virginia, Exhibit No. 13 in the present proceedings. Under this new uniform system the Company was required to state its plant accounts on the basis of the original cost of the properties included therein.

In anticipation of the adoption by the West Virginia Commission of this new system of accounts, the Company in July, 1938 began the studies and investigations of its records necessary to determine accurately the original cost of its properties. It hired a special force ranging up to 40 individuals during the balance of 1938 and up to 120 in 1939 and 180 in 1940. This force, consisting of accountants, engineers, clerks, comptometer operators and others, has

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been continuously engaged during all of this period in making the studies and original cost determinations sum-

marized in this exhibit and has been under my personal direction and supervision since September, 1938.

The Company's accounting methods have varied from time to time during the long period of its existence. From its organization in 1898 to December 31, 1922 there was no system of accounts prescribed for the Company and it kept such books and records as it deemed necessary. During this period the Company followed various accounting methods, as accounting principles were not as fully developed as they are at present. Since the Company's natural gas business was an outgrowth of the oil business and was organized by persons connected with the oil business, it generally followed accounting methods then in use by oil companies. For example, in accordance with conservative oil company accounting methods the Company did not capitalize well construction costs.

Effective January 1, 1923 the Public Service Commission of West Virginia prescribed a uniform classification of accounts to be kept by all natural gas companies subject to its jurisdiction. This classification caused a number of major changes to be made in the Company's methods of keeping property records. A revised classification of accounts was prescribed by the West Virginia Commission, effective as of January 1, 1931, which was adopted by the Company January 1, 1932 and remained in effect until December 31, 1938. As noted above, effective January 1, 1939 the present new West Virginia system of accounts became applicable. These various uniform systems of accounts for

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gas companies as prescribed by the Public Service Commission of West Virginia are in themselves not identical either in principle or in the methods of accounting permitted thereunder.

The cost of the Company's properties as capitalized on its books therefore reflects many different accounting methods and is not in accordance with the accounting principles reflected in the new 1939 West Virginia system of

accounts. However, irrespective of variations in accounting methods, the Company throughout its history by vouchers and otherwise has kept a complete and detailed record of all of its transactions. Since the Company has preserved substantially all original vouchers and all accounting books and records from the beginning of operations it was possible, by checking the vouchers and other available records pertaining to properties in existence at December 31, 1938, to determine accurately the original cost of substantially all of these properties irrespective of changes in accounting methods, and to estimate the original cost accurately of minor portions of the property where original vouchers were not available or where purchases of operating units or systems had been made from other utilities and no records of the original cost of such properties were available.

After the original cost of the Company's properties was determined this cost was adjusted by trends based on labor and material prices as shown in the Company's books to determine what the original cost would have been had the fluctuating labor rates and material prices paid by the Company in the past been the same as those paid in 1938. This adjustment corrects the original cost of the properties in existence at December 31, 1938 to reflect

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changes in price levels and indicates what the original cost of these properties would have been had the general price level been constant at the 1938 level throughout the whole period of the construction of the Company's properties since 1898 on.

2. Inventory Of The Company's Properties As Of December 31, 1938

The first step in these determinations was to obtain an accurate inventory of the Company's properties as of December 31, 1938. To this end the following steps were taken:

(a) A transcription was made of the Company's investment ledgers detailing the various items of property owned by the Company as of December 31, 1938 as shown by its books. This transcription resulted in a complete book inventory of all of the Company's production system, transmission system and general properties (excluding its properties, both distribution and general, used solely for distribution of gas in West Virginia) except communication equipment, where the investment ledgers were not so detailed as to show the communication equipment in place at December 31, 1938. This book inventory was transcribed upon approximately 40,000 multi-column sheets.

(b) The December 31, 1938 book inventory as so transcribed was then checked, account by account, against all other available records pertaining to these properties in the Company's general office and in its field offices throughout its system. These records consisted of subsidiary property records in the Company's accounting department, records, maps and other data

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pertaining to the property accounts in the Company's engineering and geological departments and in the operating departments in the field offices.

(c) This book inventory so prepared and checked against all office records was then further checked in the field. Substantially all of the visible property was verified by field observation as to its existence and description. The buried property such as pipe lines was checked in the field by a sampling method as to its existence and description. Thus the book inventory was corrected to reflect only property in existence at December 31, 1938.

In connection with the field check of compressor station structures and equipment, use was made of a

detailed inventory of the Company's properties as of June 30, 1931 which was made and agreed upon in the 1931 East Ohio-Cleveland rate case before the Public Utilities Commission of Ohio by engineers representing the City of Cleveland, engineers of the Ohio Commission and Ford, Bacon & Davis, Inc., representing The East Ohio Gas Company. This agreed 1931 inventory, adjusted to reflect all additions and retirements from June 30, 1931 to December 31, 1938 as checked in the field, was used to verify the book inventory of compressor stations and structures and to furnish more detailed descriptions and dimensions of property than appeared in the investment ledgers.

In the verification of the inventory of pipe lines new surveys were made wherever necessary to confirm the accuracy of inventory data on hand.

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(d) In the course of the preparation of the inventory it was found that the transcribed investment ledgers did not give a sufficiently detailed description for the property in certain accounts. Accordingly, in the course of the field check previously described, new physical inventories were made in the field as of December 31, 1938 for field and transmission measuring and regulating station equipment, shop equipment, office furniture and equipment, other production equipment, other transmission system equipment, garage equipment, communication equipment, pumping and bailing outfits, laboratory equipment and all structures except those at compressor stations.

The inventories so prepared and verified comprise the properties existing at December 31, 1938 for which the original cost and trended original cost were determined. They likewise constitute the basis of the reproduction cost determination presented in another Company exhibit.

In cases where the preparation and verification of this inventory showed that property no longer in existence was still carried on the books of the Company all necessary adjustments were made to eliminate the charges for such property. Where property was found by the field check which had not been recorded on the books, appropriate adjustments were made to include these items. Various adjustments were made to transfer property between accounts as prescribed by the new West Virginia system of accounts in order to classify the Company's plant accounts in accordance with this new system.

Statement C at pages 33 and 34 of this exhibit shows a classification of the inventory, transfer and correcting ad-

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justments made to the amounts capitalized on the Company's books as of December 31, 1938. Columns (6) to (8) of this statement show the changes resulting from the inventory adjustments and transfers between accounts as above described.

3. General Procedures Followed In Original Cost Determination

A. Property Constructed by the Company

For each unit of property shown in the inventory the Company's records were examined to determine whether such property was constructed by the Company or purchased by the Company from another party. Different methods were necessarily required for determining the original cost of these two types of property. There is first explained here the general procedures used to determine the original cost of properties constructed by the Company itself and next the general procedures as to purchased property.

In transcribing the book inventory as previously explained there was likewise transcribed from the investment ledgers the cost of each item as capitalized on the

Company's books, and the voucher number and date of each voucher. These vouchers were carefully analyzed, and where such analysis disclosed them to be closing vouchers, transfer vouchers or inventory adjustment vouchers, the original vouchers containing the original entries pertaining to the unit of property were traced and analyzed. To trace the original vouchers, use was made of all of the available data in the Company's records including investment ledgers, voucher records, general ledgers, warehouse transfers, labor and teaming vouchers, etc. The actual costs disclosed by the original vouchers were recorded in all cases where the investment ledgers did not correctly set forth these costs.

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In the analysis of the actual cost of items constructed by the Company it was ascertained that particularly prior to 1923 some costs were charged to expense. For example, prior to 1923 all the costs of drilling the Company's wells were charged to expense. Accordingly the voucher analysis referred to above included an analysis of all operating expense vouchers pertaining to construction and improvement costs which had been charged to expense. All actual material and labor costs of property in existence at December 31, 1938 which had previously been charged to expense were recorded on the final original cost sheets.

Statement D at pages 35 and 36 of this exhibit sets forth an analysis and summary of these direct costs not heretofore capitalized by the Company.

The analysis of vouchers and records showed that Company expenditures for field supervision, field clerical work, warehouse handling, and other field costs in connection with equipment and plant construction had in many cases not been included in costs as capitalized by the Company on its books but had been charged to operating expenses. In order to determine the original cost of the Company's properties such field costs, termed "unloading, hauling and

warehouse handling costs" and "indirect field costs," had to be ascertained from an analysis of the Company's records covering the costs experienced in the performance of these construction activities. Unloading, hauling and warehouse handling costs and indirect field costs were ascertained and recorded on the final original cost sheets for the property in the following accounts:

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Acct. 332-1—Producing Gas Wells—Well Construction

Acct. 332-2—Producing Gas Wells—Well Equipment

Acct. 333-1—Field Lines:

Construction

Equipment

Acct. 333-2—Field Measuring and Regulating Station Equipment

Acct. 354-3—Transmission System Measuring and Regulating Equipment

Statement E at pages 37 to 40 of this exhibit explains the methods followed in determining these costs.

The analysis of the vouchers and records also showed that in most cases the Company's expenditures for general administrative supervision, engineering, accounting, purchasing, payroll and other like services in connection with the equipment and the plant construction had not been included in the costs capitalized by the Company but had been charged to operating expenses. To determine the original cost of the Company's properties in accordance with the accounting principles set out in the new West Virginia system of accounts it was therefore necessary to determine the amount of these expenditures incurred in connection with the construction and acquisition of the properties in existence at December 31, 1938. These expenditures, termed "overhead costs," were grouped as follows:

1. Purchasing department, including the traffic and invoice departments.
2. Payroll department.

3. Land department, including the leasing department.
4. General overhead, consisting of administrative, legal, accounting and engineering services.
5. Interest during construction.

A detailed study was made by calendar years from the inception of the Company until the end of 1928 to determine

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what portion of the Company's expenditures for these departments and services should be charged to investment so that the original cost of the existing plant might be properly shown.

This study showed the proper percentages for these overheads to be added to the direct material and labor original costs. These percentages were accordingly applied on the final original cost sheets to direct material and labor original costs there shown where such overhead costs had not previously been included in the capital accounts. Interest during construction could not be obtained from an analysis of the Company's overhead expenditures since the Company has never included any charge for interest during construction in its plant accounts or in its operating expenses. Interest during construction was therefore applied at the rate of 6% per annum to construction projects requiring more than thirty days to build and costing more than \$5,000.

Statement F at pages 41 to 52 sets forth first a description of the methods used in determining these overhead percentages and second a table summarizing them by years. The amounts of the various kinds of overhead costs and the total of these costs included in the original cost are shown in Statement G at pages 53 and 54 of this exhibit.

In general the original cost sheets covering property constructed by the Company therefore show for each item of property:

1. The cost at which capitalized on the Company's books.

2. Adjustments required by reason of corrections of the book inventory, transfers of property as between accounts and corrections to eliminate inaccuracies where the cost as capitalized on the Company's books was based on transfer or inventory adjustment vouchers.

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3. The costs of the property not capitalized by the Company consisting of:
 - (a) Direct labor and material costs,
 - (b) Unloading, hauling and warehouse handling costs,
 - (c) Indirect field costs,
 - (d) Overhead costs.
4. The total original cost of each inventoried item of property in existence at December 31, 1938.

B. Property Purchased by the Company

- (1) *Purchased from non-utilities, or from other utilities where not an operating unit or system*

Where the analysis of the Company's records showed units of property in existence at December 31, 1938 which had been purchased from non-utility corporations or individuals, or from a public utility in cases where the item was not an operating unit or system, the original cost was recorded on the original cost sheets at the cost of acquisition to the Company, plus general overhead to cover administrative, legal, accounting and engineering services in connection with these purchases in the amount of one-fourth of the general overhead percentage determined for properties constructed by the Company. As in the case of properties constructed by the Company all pertinent vouchers and other records were carefully analyzed in order to record correctly the cost of acquisition on the original cost sheets.

(2) *Purchased from other utilities as an operating unit or system*

Where the analysis of the Company's records disclosed that property in existence at December 31, 1938 had been purchased as an operating unit or system from a public utility, the original cost of such property was determined

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by an analysis of all the pertinent records and data that could be obtained. The amount of such property is small, comprising less than 7% of the total.

Certain of these public utilities such as Flaggy Meadow Gas Company, Mountain State Gas Company, Clarksburg Light and Heat Company and Reserve Gas Company were either affiliated with the Company or were purchased in their entirety. All of the existing books and records of these companies were available for examination and analysis. In such cases these records were analyzed and the original cost determined precisely as was done in the case of the Company's books and records for property constructed by the Company. As to other utility corporations such as Fayette County Gas Company and United Fuel Gas Company, the original cost of the properties in question was furnished by these companies at the request of the Hope Company. This data was fairly complete, but did not include overheads. All other companies from which original cost data was requested advised that they were unable to furnish the original cost of the properties purchased from them by the Hope Company. In such cases, involving minor amounts of property, the original cost was based on the Hope Company's experience in constructing similar properties under similar circumstances and during like periods.

Inasmuch as none of the original cost data obtained by inquiry from other utility corporations included overhead expenditures, the overhead percentages developed from the analysis of the Company's experience as described

above were applied. The studies made indicated that such an application resulted in a conservative estimate of the overhead expenditures actually incurred in the construction of these purchased properties.

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The original cost sheets listing purchased property contain references to vouchers of the predecessor company where available or to other sources of information used in the original cost determinations. The last column on each of these sheets shows the total original cost of all purchased properties determined on the basis here described.

4. Application Of General Original Cost Procedures To Major Classifications of Property

The general original cost procedures heretofore described were applied, account by account, to the properties in each plant account. This application may be briefly described by major classifications of property as follows:

Land. The original cost of each parcel of land was based on the deeds and original vouchers pertaining thereto. This cost includes the consideration paid, the cost of obtaining the deed, recording, abstracting and miscellaneous costs and land department and general overhead expenditures.

Natural gas leaseholds. The leasehold accounts include all the natural gas leaseholds, natural gas rights and royalties which the Company owned as of December 31, 1938, both those classified by the Company as operated and those classified as unoperated.

In determining the original cost of these leaseholds and rights the consideration paid by the Hope Company for the first lease taken or acquired by the Hope Company on each tract under lease at December 31, 1938 was ascertained and recorded on the original cost sheets. No distinction was drawn as to whether the lease was taken or ac-

quired from a farmer, individual or private company or another utility. There was likewise included the cost of

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obtaining, recording and abstracting these first leases and gas rights and land department and general overhead expenditures.

The consideration paid by the Company was obtained from vouchers listed in the lease ledgers. The cost of obtaining leases acquired directly from land owners was secured from lease vouchers during the period 1921 to 1938 inclusive. Prior to 1921 such costs were estimated, where necessary, based on an analysis of the known cost of obtaining over 3,700 leases. Costs of recording and abstracting leaseholds were secured in most cases directly from the Company's records. Where estimates were necessary they were based on a summary of recording and abstracting costs contained in vouchers, statements and other records of the Company.

○ This original cost is the nominal acquisition cost of the particular tracts under lease at December 31, 1938 and does not reflect the substantial original exploration costs by way of delay rentals, dry hole expense and losses on cancelled leases incurred by the Company in exploring for, locating and developing these tracts.

Rights of way. The original cost of rights of way includes the consideration and advance damages paid, expenses incurred in obtaining and fees paid for recording and land department and general overhead expenditures. The original cost was obtained by an analysis of vouchers, original grants, inventory ledgers, and rights of way record books. In determining these costs the right of way over each farm or land tract was considered as a unit of property. Inventory adjustments were made on this basis where rights of way were not retired by the Company when a line was lifted.

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Gas Wells. The original cost of gas well equipment was generally determined from the Company's well investment ledgers. Since its inception the Company has recorded by individually numbered wells a description of the equipment in each well, also the size, quantity and cost, together with the voucher numbers and dates. Vouchers were checked wherever necessary. Warehousing, purchasing and general overhead expenditures and interest during construction where applicable were included.

Prior to 1923 well construction costs were not capitalized by the Company but were charged to expense. Accordingly well construction costs prior to 1923 were determined from an analysis of the original vouchers and well records. Beginning in 1923 well construction costs were generally capitalized and recorded in the well investment ledgers. These ledgers were used in determining the original cost of well construction from January 1, 1923 on, checked as necessary against vouchers. Indirect field costs, payroll, purchasing and general overhead expenditures and interest during construction where applicable were included in well construction.

The original cost of wells drilled by the Company or for the Company by a contractor when the Company furnished the rig reflects the average cost of drilling rigs, after elimination of recorded arbitrary charges for use of derricks, bull wheels, sand reels, etc.

Pipe lines. For lines built or acquired subsequent to 1919 the investment ledgers in most cases reflected the actual direct material and construction costs. All ledger entries of any appreciable amount for such lines were

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checked against the original vouchers for accuracy. Prior to 1920 the Company's investment ledgers did not segregate the cost of pipe lines by individual lines. The original cost of lines laid prior to 1920 and still in existence at De-

cember 31, 1938 was therefore determined from the original vouchers, the 1920 inventory voucher allocating total pipe line costs to individual lines being disregarded in this connection as not truly reflecting correct original cost. Original vouchers were found for all lines except for a few small field lines laid prior to 1907 where the original cost had to be estimated. These estimates were based on the known costs of lines laid by the Company at approximately the same period and in the same territory.

The original cost of pipe lines includes direct labor costs not included in the cost capitalized on the Company's books, indirect field and warehousing costs and overhead expenditures as described above, except that in the case of main and trunk lines indirect field costs and warehousing costs were not included. In the case of main and trunk lines indirect field costs were generally included among the direct construction costs as shown by the vouchers, and as a general rule warehousing costs were not incurred in the construction of these lines as the material was unloaded at the point of construction.

Compressor station structures and equipment. The original cost of the equipment in the Company's compressor stations was obtained from the investment ledgers, verified and corrected on the basis of the vouchers and invoices. These ledgers did not segregate the installation costs of

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equipment erected prior to 1920 from the construction costs of the compressor station structures. It was likewise found that prior to 1920 no attempt was made to show on the Company's books the cost of individual compressor station buildings, nor was any record made of the number and size of the principal compressor station buildings erected during any construction period. Charges were shown for each compressor station as a whole. After 1920 the costs of the principal buildings at each compressor station were set up separately but in many instances materials were not

accurately charged and the costs of smaller buildings and miscellaneous items such as concrete walks, curbs, equipment foundations, etc. were absorbed in the major structures.

In view of these circumstances a special study was made of all vouchers, records and other available data pertaining to compressor station structures and equipment. In this analysis all major investment ledger entries were verified by an examination of the vouchers. The materials as enumerated in the purchase vouchers were summarized and the total quantities purchased were compared with the total materials reasonably necessary for the construction of the buildings at each station as shown in the agreed 1931 inventory (adjusted to date) previously referred to. In many instances local conditions which might affect the quantity of materials required were checked in the field by conferring with men who were in charge, or who worked on the various jobs. Upon completion of this study, the actual cost of the various materials such as sand, gravel, cement, lumber, etc. was prorated over the buildings comprising each compressor station, using as a basis the quantities contained in the agreed inventory. The costs of

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labor, teaming, freight and engineering and supervision were then allocated to the buildings in like manner, subject to the necessary variations which local conditions or engineering judgment might require. The various material and labor costs thus derived were then summarized for each structure in the inventory. This summary also gives the date of construction of each structure, and information as to whether the work was performed by Company forces or by a contractor.

This analysis showed that a number of the structures existing at December 31, 1938 were not included in the Company's capital accounts. Where the cost of these structures was shown in the expense vouchers it was recorded on

the original cost sheets. In a few cases in the absence of actual cost records, the original cost of structures was estimated on the basis of material prices and labor rates for the years involved as paid by the Company and obtained from a study of compressor station voucher records and payroll accounts from 1903 to 1938.

Included in the original cost of compressor station structures and equipment are direct material and labor costs not capitalized on the Company's books, purchasing, payroll and general overhead expenditures and interest during construction where applicable.

Other structures. For structures other than compressor station structures as included in the various structure accounts the Company's investment ledgers and vouchers were analyzed and all determinable actual costs were recorded on the original cost sheets. A special analysis was made to determine whether the material and labor costs as so found were consistent with the materials necessary for the structures as determinable from the new field inventories of these structures. In a few cases where partial

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or complete costs of a structure had not been capitalized and could not be identified in expense vouchers, the omitted costs were estimated, based on known costs of similar structures, and these estimated costs were recorded on the original cost sheets as costs which had been charged to expense. In other respects the original costs of these various structures were completed in the same way as the original costs of the compressor station structures.

Miscellaneous and general equipment. The new field inventories made in connection with the original cost inventory as previously described included new inventories for the items contained in the miscellaneous and general equipment accounts. The vouchers for the major portion of the equipment listed in these new inventories were ex-

aminated and the costs as set forth in these vouchers were recorded on the original cost sheets. This equipment included measuring and regulating equipment, shop equipment, office furniture and equipment, other production and other transmission system equipment, garage equipment, communication equipment, pumping and bailing outfits and laboratory equipment. For the items that could not be identified by voucher the Company's purchasing department records and vouchers showing the cost of similar items were used and in a few cases for certain items the original cost was determined by trending known costs.

Installation costs of communication equipment were based upon the costs of installing Company telephone lines and equipment for which the actual installation costs were determinable from the Company's records.

In completing the original cost determination for these accounts purchasing, payroll and general overhead expenditures were included where applicable.

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5. Details Of The Original Cost Determination

The details of this original cost determination are recorded on approximately 78,000 multi-column sheets. The final original cost sheets set forth specifically the inventory as of December 31, 1938, the original cost of each inventoried item, whether heretofore capitalized or not capitalized by the Company, and the voucher and other references showing specifically the source of the original cost determination. These detailed sheets are available at the Company's general office for analysis and check by all parties to the present proceeding and have been examined by members of the staff of the Federal Power Commission commencing in January, 1940. In the interest of economy and brevity these 78,000 sheets are not here reproduced.

6. General Procedures Followed In Trending The Original Cost To 1938 Prices.

In trending the original cost of the Company's properties existing at December 31, 1938 to reflect the 1938 price level it was necessary to develop numerous basic trends. As to the larger part in value of the Company's properties these trends were based on labor and material prices shown on its books and records.

In certain instances it was necessary to develop trends in part by reference to general price data accumulated by other natural gas companies, by Ford, Bacon & Davis, Inc. and by certain statistical services, but in every such case the data used in arriving at the trends were for the kinds of labor and material entering into the type of construction constituting natural gas properties such as these of the Hope Company.

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The original costs of the land, rights of way and leasehold accounts and a few minor accounts such as laboratory equipment, drilling and cleaning tools and automobiles were not trended. The original costs of properties in all other accounts were trended by the use of yearly trend factors with 1938 costs as 100. These factors for each account were obtained from trends of the particular labor and materials included in the properties in each account. In some instances composite factors were used, determined by trending representative items of property in each account.

The year by year trend factor so determined for each account was applied to the original cost incurred in each year for the property in that account which was still in existence at December 31, 1938. The resulting figures fairly show what would have been the original cost of the Company's present properties if these had been constructed over the years at the 1938 labor and material prices.

Statement H at pages 55 to 62 of this exhibit sets forth a description of the determination of these yearly trend factors. Statement I at pages 63 to 96 shows for each account the original cost of the properties in the account as existing at December 31, 1938, segregated by years first placed in public service, the trend factor for each year and the total original cost trended to 1938 prices. Statement J at pages 97 and 98 summarizes by years and for all of the Company's properties here involved the data shown in Statement I for each account.

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7. Details Of Trended Original Cost Determination

The details of the trending of the original cost of the Company's property to reflect 1938 labor rates and material prices are available at the general office of the Company for inspection by all parties to these proceedings. In the interest of economy and brevity they are not reproduced here.

8. Summaries Of Original Cost And Original Cost Trended To 1938 Prices

Statement A at pages 29 and 30 of this exhibit shows for each plant account the original cost and the original cost trended to 1938 prices of the natural gas production plant, transmission plant and general plant of the Company existing at December 31, 1938, excluding those properties, both distribution and general, used solely for distribution of gas in West Virginia.

At the end of Statement A there are deducted both the original and trended original costs of the Company's properties in these plant accounts which are used to transport coke oven gas. It will be noted from Statement A that the total original cost of the properties in these plant accounts of the Company, excluding the property used to transport coke oven gas, amounts to \$69,735,637.86 and that this original cost trended to 1938 prices totals \$105,101,912.

Statement B at pages 31 and 32 of this exhibit classifies the original cost of the Company's property, account by account, as between (1) properties constructed by the Company, purchased from non-utilities or from other utilities where not operating units or systems and (2) properties purchased by the Company from other utilities as

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operating units or systems. It will be observed from Statement B that the original cost of properties constructed by the Company, etc., excluding property used to transport coke oven gas, amounts to \$64,917,509.13 and that the original cost of properties purchased by the Company from other utilities as operating units or systems totals \$4,818,128.73.

Statement B likewise shows for properties constructed by the Company, etc. the amount heretofore capitalized on the Company's books, the total inventory, transfer and correcting adjustments made in the course of the original cost determination, the amount of direct material and labor costs expensed, the amount of warehousing costs, the amount of indirect field costs and the total overhead expenditures incurred in connection with the construction and acquisition of these properties. As to properties acquired as operating units or systems from other utilities, Statement B shows the cost as heretofore capitalized on the books of the Company, the direct material and labor original cost of these properties and the warehousing, indirect field and overhead costs which have been added to complete the original cost of these properties. It will be noted that the costs heretofore capitalized on the Company's books for these utility properties purchased amount to \$3,218,399.28 as against the original cost of these properties of \$4,818,128.73.

SIGNED at Clarksburg, West Virginia, this May 14, 1940.

PETER ANTONELLI :

Statement A

HOPE NATURAL GAS COMPANY

Original Cost and Original Cost Trended to 1938 Prices of
Natural Gas Production Plant, Transmission Plant and General Plant (Jointly Used)
Existing at December 31, 1938

SUMMARY BY ACCOUNTS

Account Nos.	Old	New W. Va. P. S. C.	(1)	(2)	Description	(3)	Original Cost (4)	Original Cost Trended To 1938 Prices (5)
Natural Gas Production Plant								
204	330-1				Natural Gas Producing Lands		\$ 2,370.39	\$ 2,370*
205	330-2				Natural Gas Producing Leaseholds:			
					Operated Leaseholds, Gas Rights and Royalties		1,684,635.98	1,684,636*
					Unoperated Leaseholds, Gas Rights and Royalties		681,882.91	681,882*
206	330-4				Rights of Way		704,021.57	704,022*
204	330-5				Other Land and Land Rights		22,125.56	22,126*
209	331-2				Field Measuring and Regulating Station Structures		40,773.27	41,799
210	331-3				Other Production System Structures		291,872.40	291,872*
211	332-1				Producing Gas Wells—Well Construction (A)		17,783,637.13	34,384,320
212	332-2				Producing Gas Wells—Well Equipment		8,168,191.52	10,663,983
213, 214	333-1				Field Lines		12,356,757.34	17,514,243
215, 217	333-2				Field Measuring and Regulating Station Equipment		277,529.66	295,311
216	334				Drilling and Cleaning Equipment		604,936.40	601,353*
249, 251, 256, 257	337				Other Production Equipment		89,102.37	105,335
					Total Natural Gas Production Plant		\$42,707,835.80	\$ 67,079,525
Transmission Plant								
218	351-12				Land			
220	351-23				Rights of Way		\$ 168,575.67	\$ 168,576*
221, 223	352-2				Compressor Station Structures		453,168.53	453,169*
222	352-3				Transmission System Measuring and Regulating Station Structures		1,811,605.37	2,498,445
223	352-4				Other Transmission System Structures		13,950.88	20,896
226	353				Mains		11,508.57	12,865
224	354-2				Compressor Station Equipment		15,491,539.19	23,044,740
225	354-3				Transmission System Measuring and Regulating Equipment		8,644,011.79	11,536,567
249, 251, 256, 257	354-4				Other Transmission System Equipment		26,713.48	41,021
					Total Transmission Plant		\$26,644,135.38	\$ 37,802,328
General Plant (Jointly Used)								
244, 245	370				Land and Land Rights		\$ 98,187.72	\$ 98,188*
247, 248	371				Structures and Improvements		274,437.36	306,129
249	372				Office Furniture and Equipment		195,911.07	217,548**
252, 253, 256	373				Transportation Equipment		148,540.34	151,163**
251	374				Stores Equipment		9,465.88	10,514
251, 256, 257	375				Shop Equipment		114,705.84	166,830
224, 257	376				Laboratory Equipment		1,070.22	1,070*
257	377				Tools and Work Equipment		4,634.27	4,634*
255	378				Communication Equipment		353,333.52*	401,125**
249, 257	379				Miscellaneous Equipment		1,171.98	1,172*
					Total General Plant (Jointly Used)		\$ 1,201,468.20	\$ 1,358,373
					Total Natural Gas Production Plant, Transmission Plant and General Plant (Jointly Used)		\$70,553,439.38	\$106,240,226
Less: Property Used to Transport Coke Oven Gas								
330-4					Rights of Way		\$ 2,466.33	\$ 2,466*
333-1					Field Lines		54,876.63	77,958
333-2					Field Measuring and Regulating Station Equipment		19,430.64	11,099
351-12					Land		4,471.12	4,471*
351-23					Rights of Way		10,774.54	10,775*
352-2					Compressor Station Structures		85,659.91	119,152
352-3					Transmission System Measuring and Regulating Station Structures		1,963.30	2,941
353					Mains		310,963.02	462,743
354-2					Compressor Station Equipment		330,481.17	441,230
378					Communication Equipment		5,714.86	6,487**
					Total Property Used to Transport Coke Oven Gas		\$ 817,801.52	\$ 1,138,314
					Total (Exclusive of Property Used to Transport Coke Oven Gas)		\$69,735,637.86	\$105,101,912

Notes: * Not trended.

** Trended in part.

(A) Includes Account 331-1: Gas Well Structures.

HOPE NATURAL GAS COMPANY

Original Cost and Original Cost Trended to
OfNatural Gas Production Plant, Transmission Plant and Gas
Existing at December 31, 1938

Classification of Original Cost as Between Properties Constructed by the

Account Nos.			Original Cost of Property Constructed by Hope, Purchased from Non-Utilities or from Other Utilities where not an Operating Unit or System						
Old	New W. Va. P. S. C.	Description	Cost Capitalized Per Hope Natural Gas Company Books	Cost Capitalized per Hope Books		Direct Material and Labor Costs Not Capitalized	Unloading, Hauling and Warehouse Handling Costs	Indirect Field Costs	Overhead Costs
				Per Books	Inventory, Transfer, and Correcting Adjustments				
(1)	(2)	(3)	(4) = (5) + (12)	(5)	(6)	(7)	(8)	(9)	(10)
Natural Gas Production Plant									
204	330-1	Natural Gas Producing Lands.....	\$ —	\$ —	\$ 1,243.75	\$ 150.45	\$ —	\$ —	\$ 67.46
205	330-2	Natural Gas Producing Leaseholds: *							
		Operated Leaseholds, Gas Rights and Royalties.....	1,331,100.55	996,077.01	252,752.18	64,398.61	—	—	30,541.24
		Unoperated Leaseholds, Gas Rights and Royalties.....	479,570.75	408,691.54	104,811.48	71,591.55	—	—	24,754.37
206	330-4	Rights of Way.....	530,476.17	504,191.07	8,673.72	107,448.27	—	—	28,029.07
204	330-5	Other Land and Land Rights.....	23,729.28	22,379.28	4,820.76†	375.75	—	—	933.26
209	331-2	Field Measuring and Regulating Station Structures.....	30,244.11	25,820.84	7,608.43	17,235.46	—	—	1,869.70
210	331-3	Other Production System Structures.....	177,682.39	175,186.87	13,540.09	87,981.12	—	—	9,338.85
211	332-1	Producing Gas Wells—Well Construction (A).....	4,370,612.79	4,359,378.54	173,685.17	11,279,554.08	—	339,794.73	337,387.69
212	332-2	Producing Gas Wells—Well Equipment.....	7,893,605.30	7,326,669.23	219,793.49	—	208,253.60	—	265,529.41
213, 214	333-1	Field Lines.....	10,991,297.37	9,875,131.36	348,059.35	897,429.98	174,199.64	55,752.90	426,691.27
215, 217	333-2	Field Measuring and Regulating Station Equipment.....	244,176.06	239,046.35	50,166.49	63,113.14	1,182.26	901.35	11,255.08
216	334	Drilling and Cleaning Equipment.....	387,555.33	387,555.33	202,949.49	—	—	—	9,236.66
249, 251, 256, 257	337	Other Production Equipment.....	—	—	74,798.10	12,379.69	—	—	1,143.75
Total Natural Gas Production Plant.....			\$26,460,050.10	\$24,320,127.42	\$ 145,364.88	\$12,601,658.10	\$383,635.50	\$396,448.98	\$ 1,346,777.81
Transmission Plant									
218	351-12	Land.....	\$ 152,660.05	\$ 142,150.25	\$ 8,437.02	\$ 1,887.31	\$ —	\$ —	\$ 8,079.34
220	351-23	Rights of Way.....	551,354.41	551,354.41	159,852.40	13,306.92	—	—	20,195.06
221, 223	352-2	Compressor Station Structures.....	1,760,317.25	1,735,110.29	334,278.77	283,497.72	—	—	105,008.28
222	352-3	Transmission System Measuring and Regulating Station Structures.....	6,305.15	6,305.15	3,239.46	3,875.40	—	—	530.87
223	352-4	Other Transmission System Structures.....	6,709.29	6,709.29	66.40	4,133.11	—	—	599.77
226	353	Mains.....	14,614,229.98	13,692,381.83	91,009.03	182,149.84	—	—	893,488.28
224	354-2	Compressor Station Equipment.....	8,135,673.87	8,039,762.25	519,898.79	533,551.51	—	—	482,233.86
225	354-3	Transmission System Measuring and Regulating Equipment.....	26,234.00	26,234.00	8,618.09	7,781.40	49.02	—	1,267.15
249, 251, 256, 257	354-4	Other Transmission System Equipment.....	—	—	21,015.55	924.60	—	—	1,101.75
Total Transmission Plant.....			\$25,253,484.00	\$24,200,007.47	\$ 1,080,898.65	\$ 1,031,107.81	\$ 49.02	—	\$ 1,512,504.36

Notes: * Not trended.

** Trended in part.

(A) Includes Account 331-1: Gas Well Structures.

† ITALICS DENOTE RED FIGURES.

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AL GAS COMPANY

Statement B

al Cost Trended to 1938 Prices
Of

ission Plant and General Plant (Jointly Used)

December 31, 1938

Constructed by the Company and Purchased by the Company

Utilities or from
m

Property Purchased by Hope from Other Utilities as an Operating Unit or System

Original Cost

Overhead Costs	Total	Cost Capitalized Per Hope Books	Direct Material and Labor Costs to Other Utilities	Unloading, Hauling and Warehouse Handling Costs	Indirect Field Costs	Overhead Costs	Total	Total Original Cost	Weighted Average Trend To 1938 (1938 = 100)	Original Cost Trended to 1938 Prices
(10)	(11) = (5) to (10) incl.	(12)	(13)	(14)	(15)	(16)	(17) = (13) to (16) incl.	(18) = (11) + (17)	(19) = (18) ÷ (20)	(20)
\$ 67.46	\$ 1,461.66	\$ —	\$ 880.00	\$ —	\$ —	\$ 28.73	\$ 908.73	\$ 2,370.39	—	\$ 2,370*
30,541.24	1,343,769.04	335,023.54	335,079.18	—	—	5,787.76	340,866.94	1,684,635.98	—	1,684,636*
24,754.37	609,848.94	70,879.21	70,879.21	—	—	1,154.06	72,033.27	681,882.21	—	681,882*
28,029.07	648,342.13	26,285.10	53,344.55	—	—	2,334.89	55,679.44	704,021.57	—	704,022*
933.26	18,867.53	1,350.00	3,109.50	—	—	148.53	3,258.03	22,125.56	—	22,126*
1,869.70	37,317.57	4,423.27	3,309.92	—	—	145.78	3,455.70	40,773.27	97.5	41,799
9,338.85	286,046.93	2,495.52	5,621.00	—	—	204.47	5,825.47	291,872.40	83.8	348,145
337,387.69	16,342,429.87	11,234.25	1,375,321.74	—	29,534.34	36,351.18	1,441,207.26	17,783,637.13	51.7	34,384,320
265,529.41	7,580,658.75	566,936.07	563,340.05	7,049.87	—	17,142.85	587,532.77	8,168,191.52	76.6	10,663,983
426,691.27	11,081,145.80	1,116,166.01	1,219,861.17	11,436.63	8,909.92	35,403.82	1,275,611.54	12,356,757.34	70.4	17,544,243
11,255.08	265,331.69	5,129.71	11,554.22	69.85	74.80	499.10	12,197.97	277,529.66	94.0	295,311
9,236.66	599,741.48	—	4,993.92	—	—	201.06	5,194.92	604,936.40	100.6	601,353**
1,143.75	88,321.54	—	775.38	—	—	5.45	780.83	89,102.37	84.6	105,335
\$ 1,346,777.81	\$38,903,282.93	\$ 2,139,922.68	\$ 3,648,069.84	\$ 18,556.35	\$ 38,519.06	\$ 99,407.62	\$ 3,804,552.87	\$42,707,835.80	63.7	\$67,079,525
\$ 8,079.34	\$ 160,553.92	\$ 10,509.80	\$ 7,652.62	—	—	\$ 369.13	\$ 8,021.75	\$ 168,575.67	—	\$ 168,576*
20,195.06	425,003.99	—	27,596.14	—	—	568.40	28,164.54	453,168.53	—	453,169*
105,008.28	1,789,337.52	25,206.96	21,249.83	—	—	1,018.02	22,267.85	1,811,605.37	72.5	2,498,445
530.87	13,950.88	—	—	—	—	—	—	13,950.88	66.8	20,896
599.77	11,508.57	—	—	—	—	—	—	11,508.57	89.5	12,865
893,488.28	14,677,010.92	921,848.15	800,423.77	—	—	14,124.50	814,548.27	15,491,559.19	67.2	23,044,740
482,233.86	8,535,648.83	95,911.62	103,201.36	—	—	5,161.60	108,362.96	8,644,011.79	74.9	11,536,567
1,267.15	26,713.48	—	—	—	—	—	—	26,713.48	65.1	41,021
1,101.75	23,041.90	—	—	—	—	—	—	23,041.90	88.5	26,049
\$ 1,512,504.36	\$25,662,770.01	\$ 1,053,476.53	\$ 960,123.72	—	—	\$ 21,241.65	\$ 981,365.37	\$26,644,135.38	70.5	\$37,802,328

(Concluded on next page)

HOPE NATURAL GAS COMPANY

Original Cost and Original Cost Trended to
OfNatural Gas Production Plant, Transmission Plant and General Plant
Existing at December 31, 1938Classification of Original Cost as Between Properties Constructed by the
(concluded)

Account Nos.			Cost Capitalized Per Hope Natural Gas Company Books	Original Cost of Property Constructed by Hope, Purchased from Non-Utilities or from Other Utilities where not an Operating Unit or System					
Old	New W. Va. P. S. C.	Description		Cost Capitalized per Hope Books	Inventory, Transfer, and Correcting Adjustments	Direct Material and Labor Costs Not Capitalized	Unloading, Hauling and Warehouse Handling Costs	Indirect Field Costs	Overhead Costs
(1)	(2)	(3)	(4) = (5) + (12)	(5)	(6)	(7)	(8)	(9)	(10)
General Plant (Jointly Used)									
244, 245	370	Land and Land Rights	\$ 154,590.82	\$ 141,226.54	\$ 64,809.61	\$ 298.51	\$ —	\$ —	\$ 2,754.53
247, 248	371	Structures and Improvements	262,605.30	251,534.26	28,836.61	21,750.51	—	—	17,360.48
249	372	Office Furniture and Equipment	239,989.32	239,808.52	61,305.98	14,875.59	—	—	2,369.11
252, 253, 256	373	Transportation Equipment	211,115.41	211,115.41	68,800.92	1,762.38	—	—	4,463.47
251	374	Stores Equipment	—	—	5,166.76	4,306.74	—	—	52.38
251, 256, 257	375	Shop Equipment	—	—	104,185.17	9,030.25	—	—	1,490.42
254, 257	376	Laboratory Equipment	—	—	1,063.40	40.00	0.52	—	26.30
257	377	Tools and Work Equipment	449,871.11	449,871.11	445,325.78	—	—	—	88.94
255	378	Communication Equipment	254,602.17	254,218.22	—	80,640.63	—	—	17,784.48
249, 257	379	Miscellaneous Equipment	20,484.22	20,484.22	19,336.38	—	—	—	24.14
Total General Plant (Jointly Used)			\$ 1,593,258.35	\$ 1,568,258.28	\$ 578,119.95	\$ 132,704.61	\$ 0.52	\$ —	\$ 46,414.25
Total Natural Gas Production Plant, Transmission Plant and General Plant (Jointly Used)			\$53,306,792.45	\$50,088,393.17	\$ 1,804,383.48	\$13,765,470.52	\$383,685.04	\$396,448.98	\$ 2,905,696.42
Less: Property Used to Transport Coke Oven Gas									
330-4		Rights of Way	\$ 1,511.33	\$ 1,511.33	\$ 1.25	\$ 771.10	\$ —	\$ —	\$ 182.65
333-1		Field Lines	46,789.06	46,789.06	3,932.14	7,619.51	230.76	307.68	3,861.76
333-2		Field Measuring and Regulating Station Equipment	10,087.67	10,087.67	—	—	—	—	342.97
351-12		Land	2,999.00	2,999.00	1,250.00	41.86	—	—	180.26
351-23		Rights of Way	3,936.58	3,936.58	432.53	6,928.89	—	—	341.60
352-2		Compressor Station Structures	48,702.94	48,702.94	4,936.38	37,577.52	—	—	4,315.83
352-3		Transmission System Measuring and Regulating Station Structures	—	—	1,337.40	565.38	—	—	60.52
353		Mains	204,951.29	204,951.29	38,403.63	51,316.12	—	—	16,291.98
354-2		Compressor Station Equipment	251,667.32	251,667.32	14,493.30	79,835.81	—	—	13,471.34
378		Communication Equipment	5,481.61	5,481.61	—	—	—	—	233.25
Total Property Used to Transport Coke Oven Gas			\$ 576,126.80	\$ 576,126.80	\$ 17,197.93	\$ 184,656.19	\$ 230.76	\$ 307.68	\$ 39,282.16
Total (Exclusive of Property Used to Transport Coke Oven Gas)			\$52,730,665.65	\$49,512,266.37	\$ 1,821,581.41	\$13,580,814.33	\$383,454.28	\$396,141.30	\$ 2,866,414.26

Notes: * Not trended.

** Trended in part.

(A) Includes Account 331-1: Gas Well Structures.

† ITALICS DENOTE RED FIGURES.

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PE NATURAL GAS COMPANY

and Original Cost Trended to 1938 Prices

Of

Plant, Transmission Plant and General Plant (Jointly Used)

Existing at December 31, 1938

on Properties Constructed by the Company and Purchased by the Company
(concluded)

Statement B (concluded)

Based from Non-Utilities or from Operating Unit or System			Property Purchased by Hope from Other Utilities as an Operating Unit or System Original Cost								
Indirect Field Costs	Overhead Costs	Total	Cost Capitalized Per Hope Books	Direct Material and Labor Costs to Other Utilities	Unloading, Hauling and Warehouse Handling Costs	Indirect Field Costs	Overhead Costs	Total	Total Original Cost	Weighted Average Trend To 1938 (1938 = 100)	Original Cost Trended to 1938 Prices
(9)	(10)	(11) = (5) to (10) incl.	(12)	(13)	(14)	(15)	(16)	(17) = (13) to (16) incl.	(18) = (11) + (17)	(19) = (18) ÷ (20)	(20)
\$ —	\$ 2,754.53	\$ 79,469.97	\$ 13,364.28	\$ 17,817.50	\$ —	\$ —	\$ 900.25	\$ 18,717.75	\$ 98,187.72	—	\$ 98,188*
—	17,360.48	261,808.64	11,071.04	12,157.71	—	—	461.01	12,618.72	274,427.36	89.6	306,129
—	2,369.11	195,747.24	180.80	162.69	—	—	1.14	163.83	195,911.07	90.1	217,548**
—	4,463.47	148,540.34	—	—	—	—	—	—	148,540.34	98.3	151,163
—	52.38	9,465.88	—	—	—	—	—	—	9,465.88	90.0	10,514
—	1,490.42	114,705.84	—	—	—	—	—	—	114,705.84	68.8	166,830
—	26.30	1,070.22	—	—	—	—	—	—	1,070.22	—	1,070*
—	88.94	4,634.27	—	—	—	—	—	—	4,634.27	—	4,634*
—	17,784.48	352,643.33	383.95	679.33	—	—	30.86	710.19	353,353.52	88.1	401,125**
—	24.14	1,171.98	—	—	—	—	—	—	1,171.98	—	1,172*
—	\$ 46,414.25	\$ 1,169,257.71	\$ 25,000.07	\$ 30,817.23	—	—	\$ 1,393.26	\$ 32,210.49	\$ 1,201,468.20	88.4	\$ 1,358,373
\$396,448.98	\$ 2,905,696.42	\$65,735,310.65	\$ 3,218,399.28	\$ 4,639,010.79	\$ 18,556.35	\$ 38,519.06	\$ 122,042.53	\$ 4,818,128.73	\$70,553,439.38	66.4	\$106,240,226
\$ —	\$ 182.65	\$ 2,466.33	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 2,466.33	—	\$ 2,466*
307.68	3,861.70	54,876.63	—	—	—	—	—	—	54,876.63	70.4	77,950
—	342.97	10,430.64	—	—	—	—	—	—	10,430.64	94.0	11,099
—	180.26	4,471.12	—	—	—	—	—	—	4,471.12	—	4,471*
—	341.60	10,774.54	—	—	—	—	—	—	10,774.54	—	10,775*
—	4,315.83	85,659.91	—	—	—	—	—	—	85,659.91	72.5	118,152
—	60.52	1,963.30	—	—	—	—	—	—	1,963.30	66.8	2,941
—	16,291.98	310,963.02	—	—	—	—	—	—	310,963.02	67.2	462,743
—	13,471.34	330,481.17	—	—	—	—	—	—	330,481.17	74.8	441,230
—	233.25	5,714.86	—	—	—	—	—	—	5,714.86	88.1	6,487**
\$ 307.68	\$ 39,282.16	\$ 817,801.52	—	—	—	—	—	—	\$ 817,801.52	71.8	\$ 1,138,314
\$396,141.30	\$ 2,866,414.26	\$64,917,509.13	\$ 3,218,399.28	\$ 4,639,010.79	\$ 18,556.35	\$ 38,519.06	\$ 122,042.53	\$ 4,818,128.73	\$69,735,637.86	66.4	\$105,101,912

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Statement H

HOPE NATURAL GAS COMPANY**Determination Of Trends Used To Ascertain Original
Cost Trended To 1938 Prices****1. Basic Trends**

To trend the original cost of the Company's properties to reflect 1938 material and labor prices certain basic trends hereinafter described were determined from the Company's records, supplemented where necessary from other labor and material price data. In applying these basic trends to the Company's various property accounts they were appropriately combined, when necessary, into composite trends to reflect the proportionate cost of labor and kinds of material in each account. All such composite trends were determined and applied on the basis of a careful study of the properties in each account and the full details appear in subsidiary trended original cost sheets.

The determination of the basic trends used is here briefly described, the details of this determination likewise appearing in subsidiary trended original cost sheets.

2. Labor Trends

Labor trends for pipe line and gas well construction from 1906 to 1938 were based on average Company rates paid to various classifications of labor. Prior to 1906, Company rates were available only for common labor and these rates were used as the basis for determining rates and trends for other classifications as explained below.

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Average Company rates were determined from an analysis of payroll vouchers for the months of April, July and October and of payroll department records for each

year from 1906 to 1938. From these data, an adopted average daily rate was obtained which in turn was converted to an average hourly rate based on the schedule of working hours in effect in each year.

Individual trends were thus ascertained for the years 1906 to 1938 inclusive, for the following principal classifications of labor used for pipe line and gas well construction:

Driller
Tool Dresser
Roustabout
Laborer

(a) These individual trends for driller and for tool dresser were combined in the ratio of one to one to determine the composite trend for gas well construction. This ratio was based on the Company's experience in drilling operations.

(b) These individual trends for roustabout and for laborers were combined in the ratio of one to four to determine the composite trend for pipe line construction, the proportion being estimated from the typical Company gang setup in laying lines.

While comparable data was not available prior to 1906, payroll vouchers for certain transmission and field lines constructed by the Company and predecessor companies, provided rates paid to common labor. From the prevailing rate in each year, a trend was determined for common labor from 1891 (when some purchased property now owned by the Company was built) to 1906 and this trend was used as the basis for determining rates and trends for other classifications of labor prior to 1906.

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(c) In order to ascertain trends for building construction and equipment installation, field payroll vouchers for compressor station construction were examined for each year from 1901 to 1938 to obtain average rates paid by the

Company to the classes of labor in this type of work. Average hourly rates were thus determined for the following classifications of labor:

Carpenter
Electrician
Machinist
Laborer

Since more complete data was available on the rates paid to carpenters, the trend for this classification, after comparison with other skilled labor trends (electrician and machinist), was used as typical of skilled labor. This trend was then combined with the trend for unskilled labor (laborer) in the ratio of 2 to 3, respectively, to determine the composite trend used for all structures and equipment installations except measuring and regulator station equipment and telephone equipment, the proportion of skilled and unskilled labor being determined from an analysis of MacFarlan Compressor Station construction costs.

(d) The trends for the installation of field measuring and regulator station equipment were determined from unit cost developments, based on field estimates of the time required for various classifications of labor (foreman, utility man and roustabout) and team or truck, priced at average Company rates from payroll vouchers and payroll department records as noted above. The trends so determined for field stations were also used for the corresponding type of transmission stations.

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(e) Separate labor trends were not determined for the installation of telephone equipment, composite trends including both material and labor being used, the details of which appear in subsidiary trended original cost sheets.

(f) The trend for contract labor, used for the Clarksburg Office and Garage Shop Building, was based on the index of union hourly wage rates for all building trades.

determined by the Industrial Relations Division, U. S. Department of Labor, Bureau of Labor Statistics, as published in the Engineering News Record of April 27, 1939.

3. Pipe Trends

The trend for steel line pipe from 1902 to 1938 was based on the weighted average trend for two, three, four, six and eight inch steel screw line pipe as determined primarily from the average delivered prices paid by the Company. In some instances, it was necessary to supplement these prices with the corresponding prices paid by affiliated companies served by the Purchasing Department of The Peoples Natural Gas Company. In a few cases, estimated prices were used, based on the available average Company prices, adjusted by the use of the steel line pipe trend developed from the average delivered prices paid by The Peoples Natural Gas Company.

Prior to 1902, the Company's price data was insufficient in detail to establish a trend. Pipe price data for wrought iron pipe up to 1899 and for steel pipe from 1900 to 1902, taken from Ford, Bacon & Davis, Inc. cost files, was used to establish a trend which was equalized to the

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Company trend in 1904 and used as the basis for extending the Company price trend to earlier years.

The manufacture of steel pipe on a commercial basis began in 1900 and for this reason this year was adopted as the dividing point between steel and wrought iron pipe. The line pipe trend for the whole period to 1938 was expressed in terms of the price of steel pipe in 1938 so that the cost of all wrought iron pipe included in the original cost is thus converted to the equivalent cost of steel pipe in 1938, rather than the higher priced wrought iron.

4. Casing and Tubing Trends

The trend for casing and tubing from 1902 to 1938 was based on the weighted average trend for two and three inch tubing and 6 $\frac{3}{8}$, 8 $\frac{1}{4}$ and 10 inch casing as determined primarily from the average delivered prices paid by the Company. Where prices were not available from Company records, supplementary prices were obtained as described above for line pipe.

The casing and tubing trend was extended back from 1902 on the basis of the line pipe trend explained above. As with line pipe, the trend for the entire period to 1938 was expressed in terms of the price of steel casing and tubing in 1938 and applied to the cost of all casing and tubing included in the original cost.

5. Fitting Trends

Separate trends were determined, based primarily on prices paid by the Company, for the following types of fittings:

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- Bull Plugs
- Casing Heads
- Dresser Couplings
- Check Valves, brass (same as globe valves)
- Globe Valves, brass
- Nipples (same as line pipe)
- Orifice Flanges
- Orifice Plates
- Regulators
- Saddles
- Stop Cocks, brass
- Swedge Nipples

The Company's records of prices paid for other types of fittings do not sufficiently identify the particular kind and character of fitting or provide enough data in consecutive years with which to ascertain a trend. Consequently, price data obtained from Ford, Bacon & Davis, Inc. cost

files based on manufacturers' quotations were used to determine trends for the following:

- Check Valves, iron
- Fittings, screwed
- Fittings, flanged
- Gate Valves, screwed
- Gate Valves, flanged
- Gauges
- Globe Valves, iron
- Stop Cocks, iron

Company price records were available in most instances back to 1901 or some later year. To extend the price trends to prior years trends for corresponding types of fittings based on Ford, Bacon & Davis, Inc. cost data similar to that noted above were used.

6. Equipment Trends

Separate trends were determined for more than 25 different items of equipment such as gas compressors, gas engines, pumps, motors, generators, etc. More details than were obtainable from the Company's records were required to establish trends for these various items of equipment.

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and accordingly specific data available from Ford, Bacon & Davis, Inc. cost files was used as the primary basis for developing these trends from 1914 to 1938. In some cases specific data was available for as early as 1900. Where specific data could not be obtained to extend these trends prior to 1914 various appropriate bases were used depending on the type of equipment. For example, trends for gas compressors, gas engines, pumps, etc. were extended to earlier years on the basis of the trend for foundry iron, determined from the yearly average net cost per ton; the trends for electric motors, generators, etc. were extended back to 1900 on the basis of the trend for electric motors obtained from General Electric Company data as published

in the Building Committee Report of the New York-Pittsburgh Association of Valuation Engineers.

The bases described above were used for determining trends for all equipment except that included in the telephone account, the trends for which were based on the prices paid by the Company for the wire, poles, insulators, telephones, etc. included in the telephone installation. The methods of determining these trends are explained in the subsidiary trended original cost sheets.

7. Building Material Trends

Trends from 1901 to 1938 for the principal items of building material were based on average prices paid by the Company obtained from analysis of construction work performed by the Company. Trends were developed on this basis for the following materials:

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Cement
Sand
Gravel
Corrugated Iron
Flat Sheet Iron

The Company records of prices paid for other building materials do not sufficiently identify the particular kind of material or provide enough data in consecutive years with which to determine a trend. The Building Committee Report of the New York-Pittsburgh Association of Valuation Engineers was used as the main source of price data for these materials for the period from 1901 to 1930, the trends so developed for approximately 50 different items being extended to 1938 by referring to prices published in the Engineering News Record and in bulletins of the United States Bureau of Labor Statistics, supplemented by data from the Ford, Bacon & Davis, Inc. cost files.

* * * * *

HOPE NATURAL GAS COMPANY

**Original Cost Trended to 1938 Prices of Natural Gas Production Plant,
Transmission Plant and General Plant (Jointly Used)**

Existing at December 31, 1938

Total By Years First Placed in Public Service

Year First Placed in Public Service	Original Cost Trended to 1938 Prices				Approximate Weighted Average Trend (1938 = 100)
	Original Cost	Not Trended	Trended (A)	Total	
(1)	(2)	(3)	(4)	(5)	(6) = (2) ÷ (5)
1891	\$ 9,732	\$ —	\$ 30,400	\$ 30,400	32.0
1892	203,822	1,214	486,643	487,857	41.8
1893	52,126	2,144	133,422	135,566	38.5
1894	74,419	681	191,866	192,547	38.0
1895	68,264	1,072	193,111	194,183	35.2
1896	26,292	101	81,672	81,773	32.2
1897	41,064	569	128,504	129,073	31.8
1898	40,043	1,133	99,732	100,865	39.7
1899	239,067	29,721	447,577	477,298	50.1
1900	177,521	7,619	417,297	424,916	41.8
1901	118,241	520	273,806	274,326	43.1
1902	1,229,574	388,718	1,839,403	2,228,121	55.2
1903	1,823,260	79,086	3,284,355	3,363,441	54.2
1904	2,088,446	46,900	4,205,102	4,252,002	49.1
1905	1,008,570	59,661	2,509,825	2,569,486	39.2
1906	440,829	19,921	957,492	977,413	45.1
1907	1,588,829	246,039	2,744,223	2,990,262	53.1
1908	796,342	124,406	1,454,305	1,578,711	50.4
1909	1,146,626	32,497	2,498,244	2,522,741	45.5
1910	2,150,919	185,497	4,346,665	4,532,162	47.5
1911	2,632,698	375,954	4,915,310	5,291,264	49.8
1912	1,429,618	62,359	3,151,430	3,213,789	44.5
1913	2,640,408	69,506	5,660,456	5,729,962	46.1
1914	1,691,031	58,832	3,728,864	3,787,696	44.6
1915	1,285,027	64,038	2,774,815	2,838,853	45.3
1916	2,347,279	164,450	3,882,538	4,046,968	55.5
1917	3,090,157	76,473	4,558,361	4,634,837	66.7
1918	2,732,017	71,354	3,483,126	3,554,480	76.9
1919	3,103,006	17,397	3,803,875	3,851,272	80.6
1920	2,507,985	28,483	2,731,058	2,759,541	90.9
1921	3,195,259	58,468	3,826,191	3,987,959	82.2
1922	1,031,019	29,995	1,428,939	1,458,934	70.7
1923	2,334,062	55,496	2,911,756	2,967,252	78.7
1924	3,065,508	101,052	3,458,509	3,559,552	86.1
1925	7,231,827	149,363	8,157,403	8,306,766	87.1

1891	\$ 9,732	\$ —	\$ 30,400	\$ 30,400	32.0
1892	203,822	1,214	486,643	487,857	41.8
1893	52,126	2,144	133,422	135,566	38.5
1894	74,419	681	191,866	192,547	38.6
1895	68,264	1,072	193,111	194,183	35.2
1896	26,292	101	81,672	81,773	32.2
1897	41,064	569	128,504	129,073	31.8
1898	40,043	1,133	99,732	100,865	39.7
1899	239,067	29,721	447,577	477,298	50.1
1900	177,521	7,619	417,297	424,916	41.8
1901	118,241	520	273,806	274,326	43.1
1902	1,229,574	388,718	1,839,403	2,228,121	55.2
1903	1,823,260	79,086	3,284,355	3,363,441	54.2
1904	2,088,446	46,900	4,205,102	4,252,002	49.1
1905	1,008,070	59,661	2,509,825	2,569,486	39.2
1906	440,829	19,921	957,492	977,413	45.1
1907	1,588,829	246,039	2,744,223	2,990,262	53.1
1908	796,342	124,406	1,454,305	1,578,711	50.4
1909	1,146,626	32,497	2,490,244	2,522,741	45.5
1910	2,150,919	185,497	4,346,665	4,532,162	47.5
1911	2,632,698	375,954	4,915,310	5,291,264	49.8
1912	1,429,618	62,359	3,151,430	3,213,789	44.5
1913	2,640,408	69,506	5,660,456	5,729,962	46.1
1914	1,691,034	58,832	3,788,864	3,787,696	44.6
1915	1,285,027	64,038	2,774,815	2,838,853	45.3
1916	2,247,279	164,430	3,882,538	4,046,968	55.5
1917	3,090,157	76,473	4,558,364	4,634,837	66.7
1918	2,732,017	71,354	3,483,126	3,554,480	76.9
1919	3,103,006	47,397	3,803,875	3,851,272	80.6
1920	2,507,985	28,483	2,731,058	2,759,541	90.9
1921	3,195,259	58,468	3,829,491	3,887,959	82.2
1922	1,031,019	29,995	1,428,939	1,458,934	70.7
1923	2,334,062	55,496	2,911,756	2,967,252	78.7
1924	3,065,508	101,052	3,458,500	3,559,552	86.1
1925	7,231,827	149,363	8,157,403	8,306,766	87.1
1926	2,484,197	187,011	2,565,014	2,752,025	90.3
1927	2,040,911	123,354	2,150,738	2,274,692	89.7
1928	1,155,524	23,254	1,302,199	1,325,453	87.2
1929	1,734,331	174,526	1,723,355	1,897,881	91.4
1930	1,395,355	25,931	1,615,465	1,641,396	85.0
1931	471,244	37,393	516,000	553,393	85.2
1932	226,955	12,283	262,132	274,415	82.7
1933	186,770	7,470	217,644	225,114	83.0
1934	2,390,535	312,361	2,317,183	2,629,544	90.9
1935	338,156	24,660	338,905	363,565	93.9
1936	2,591,508	109,784	2,737,333	2,847,117	91.0
1937	1,136,838	99,062	1,064,176	1,163,238	97.7
1938	860,725	44,056	816,669	860,725	100.0
	\$70,553,439	\$3,821,844	\$102,418,382	\$106,240,226	66.4

NOTE: (A) Includes accounts only partially trended.

**8. COMMISSION WITNESSES PACE'S AND DUNN'S
EXHIBIT NO. 57 ENTITLED: "Original Cost of Gas
Plant as at December 31, 1938, Volume I"**

Docket G-113

**HOPE NATURAL GAS COMPANY
ORIGINAL COST OF GAS PLANT
AS AT DECEMBER 31, 1938**

VOLUME I

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WRITTEN STATEMENT

The Federal Power Commission, under date of October 14, 1938, issued an order of investigation into and concerning all rates, charges, classifications, rules, regulations, practices or contracts of Hope Natural Gas Company. In accordance therewith, an examination of the accounts and records of Hope Natural Gas Company has been made, and, as a result, this report on the original cost of the Gas Plant of the Company is submitted.

This report is in two parts. Volume I sets forth the investment of Hope Natural Gas Company in Gas Plant per Company books and as adjusted, as of December 31, 1938. The adjusted figures show the original cost as defined in the Federal Power Commission's Uniform System of Accounts for Natural Gas Companies of the gas plant. Volume II contains a detailed explanation of the staff adjustments.

On January 1, 1939, there became effective and applicable to the Company a new Uniform System of Accounts for Gas Utilities prescribed by the Public Service Commission of West Virginia. In July, 1938, the Company began an investigation and study of its records for the purpose of stating in its Gas Plant Accounts the cost of its properties and to reflect the amount of such cost in each primary account as prescribed by said Commission.

The results of this investigation and study made by

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the Company, were made available to the accountants of the Federal Power Commission during May, 1940. An inventory of the existing property at December 31, 1938, was made by the Company and priced at what the Company claims was original cost. The results of this inventory, among other things, necessitated numerous reclassifications of costs, adjustment of prior distribution of certain costs and correction of certain accounting errors, all of which

have been examined by the Commission's staff of accountants.

There is presented immediately hereinafter a condensed balance sheet of the Company as reflected by the books of account at December 31, 1938, before any adjustments, in order to set forth the capitalized cost of Gas Plant per books on that date:

—3—

<i>Assets</i>	<i>Amount</i>
Gas Plant:	
Gas Plant in Service.....	\$56,101,875.49
Construction Work in Progress.....	81,392.75
Gas Plant Adjustment.....	94,814.75
Coal Property.....	341,529.68
Franchises, Patent Rights and Other Intangibles.....	30,185.91
Total Gas Plant.....	\$56,649,798.58
Investment and Fund Accounts.....	3,796,362.25
Current and Accrued Assets.....	15,460,687.85
Deferred Debits.....	5,002.28
Total Assets and Other Debits....	\$75,911,850.96
<i>Liabilities</i>	
Capital Stock.....	\$27,969,300.00
Current and Accrued Liabilities.....	1,971,351.32
Deferred Credits.....	3,167.89
Contributions in Aid of Construction.....	540.87
Reserves:	
Depreciation and Depletion—Utility Plant.....	40,759,450.48
Other.....	13,932.63
Surplus—Earned.....	5,194,107.77
Total Liabilities and Other Credits.	\$75,911,850.96

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As shown on the preceding balance sheet, the Capitalized Cost of Gas Plant as of December 31, 1938, was \$56,649,798.58, of which \$56,101,875.49 represented Gas Plant in Service, summarized by functions as follows:

Production Plant	\$26,460,050.10
Transmission Plant	25,253,484.00
Distribution Plant	2,795,083.04
General Plant	1,593,258.35
Total	<u>\$56,101,875.49</u>

This report deals with the cost of the production plant, transmission plant, and general plant, although a cursory examination was made of the distribution plant. The following summary sets forth the cost per Company books, reclassified by the Company as shown by Schedule I, Page of this report, and as adjusted by the examiners:

<i>Particulars</i>	<i>Cost Per Book</i>	<i>Examiners' Adjustments</i>	<i>As Adjusted</i>
Production Plant	\$26,718,065.06	(\$ 384,673.83)	\$26,333,391.23
Transmission Plant	25,279,965.69	(1,414,567.34)	23,865,398.35
General Plant	1,308,761.70	(299,930.64)	1,008,831.06
Total	<u>\$53,306,792.45</u>	<u>(\$2,099,171.81)</u>	<u>\$51,207,620.64</u>

Schedule I of this report sets forth the total cost of Gas Plant in Service per Company books, Company's reclassification adjustments, Examiners' (F.P.C. staff) adjustments and the resulting adjusted balances, representing original cost as defined in the Commission's System of Accounts.

This schedule has been constructed to show separately the total cost of the production plant, transmission plant and general plant, representing the cost dealt with in this

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report. The total cost per books, in this respect, of \$53,306,792.45, corresponds with that shown by Exhibit 20, page 32, column 4.

Attention is called to the total examiners' adjustments of \$2,099,171.81, representing a credit to the total capitalized cost of Gas Plant in Service, exclusive of distribution plant. This amount represents the net adjustment made by the examiners and is arrived at by the difference between credit adjustments, amounting to \$5,883,085.12 and debit adjustments of \$3,783,913.31, and is summarized by classes as follows:

<i>Description</i>	<i>Amount</i>
Company adjustments per Exhibit 20	\$(1,804,383.48)
Company adjustments—Prior Utility Acquisitions	(232,930.69)
Correction of accounting errors	1,480,227.70
Transfers to accounts other than Gas Plant in Service	(1,542,085.34)
Examiners' adjustment—Net Credit	<u><u>\$(2,099,171.81)</u></u>

Schedule 1-A sets forth all adjustments by sources, showing contra accounts involved. It also identifies the adjusting journal entries which are given in Volume II.

The total original cost of Gas Plant in Service, exclusive of distribution plant, at December 31, 1938, is summarized in the following tabulation which shows separately acquisitions of properties classed as operating units or systems.

Company constructed and purchases from non-utilities:

Cost per Books	\$50,088,393.17
Adjustments	(1,866,241.12)
As adjusted	<u>\$48,222,152.05</u>

—6—

Acquisitions of Prior Utilities:

Cost per books	\$3,218,399.28
Adjustments	(232,930.69)
As adjusted	<u>\$ 2,985,468.59</u>

Total as adjusted—Dec. 31, 1938	<u><u>\$51,207,620.64</u></u>
---------------------------------------	-------------------------------

The above tabulation has been made, to focus attention on properties acquired from prior utilities. As shown above and also by Exhibit 20, page 32, column 12, the cost capitalized per Company books for this class of acquisitions is \$3,218,399.28. By repricing these same properties, the Company arrives at a cost of \$4,639,010.78, as shown by Exhibit 20, page 32, column 13. This repricing would result in an increase in cost recorded in plant accounts of \$1,420,611.50. The Company adjustments or repricing are not concurred in. The only adjustments to this class of property approved by the examiners are shown in the above tabulation (\$232,930.69). They represent Company adjustments to reclassify capitalized cost and correct accounting errors.

An analysis of approximately ninety percent of such acquisitions and a careful examination of all vouchers, books and data available, together with consideration of each individual acquisition, leads to the conclusion there is no justification for any adjustments whereby the amounts now recorded in plant accounts would be increased. It is the opinion of the examiners that the amounts recorded at the time of acquisition represent the original cost as near as can be determined.

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The total proposed adjustment to this class of property, developed by the original cost study made by the Company, included a credit of \$967,151.87, classified as follows:

Credit plant accounts—Accrued Depreciation	\$(746,851.51)
Estimated costs of obtaining	10,917.50
Estimated costs of construction	1,712.83
Correction of accounting errors	(232,930.69)

Total	<u>\$(967,151.87)</u>
-------------	-----------------------

Of the above proposed adjustments, the examiners have approved only the correction of accounting errors representing a credit to Capitalized Cost of \$232,930.69.

Schedules 2 to 33, inclusive, set forth the investment in gas plant, exclusive of distribution plant, by accounts, showing the cost per books, staff adjustments, and the adjusted or original cost balances. These schedules are the result of a detailed examination made by the Commission's staff of accountants of the books, records, and documents of the Company, including the Company's Original Cost study. The adjustments include the reclassification of items shown in Schedule 1.

Schedule No. 34 is a summary of amounts transferred to Account 100.4, Gas Plant Held for Future Use, of the Commission's Uniform System of Accounts.

Schedule No. 35 is a statement of Account 107, Gas Plant Adjustments, showing the source of data and manner of determining amounts by the Company.

Schedule No. 36 is a statement of Investment in Coal Property. This investment was included in Gas Plant as of December 31, 1938 by the Company, although not in-

—8—

cluded as a part of the original cost claimed per Exhibit 20. No adjusting entry has been proposed by the Company to transfer this cost to other accounts. This item has been eliminated from Gas Plant by the examiners and transferred to Account 110, Other Physical Property, by Balance Sheet Journal Entry No. 100.

Schedule No. 37 is a summary of an account designated by the Company as "Franchises, Patent Rights and Other Intangibles" and was included in Gas Plant as of December 31, 1938. An analysis of this account discloses that it consists of three items as follows:

Patent Rights:

Thermo-syphon system for gasoline absorption plant \$ 458.66

Contracts and Franchises:

Acquired in acquisition of Clarksburg Light and Heat Co. 5,811.64

Contract for Gas:

Hamilton Gas Corporation \$3,915.61

Total \$30,185.91

The first two items shown above have been eliminated from Gas Plant by the Examiners and charged to Surplus by Balance Sheet Journal Entry No. 101.

The third item has also been eliminated from Gas Plant and transferred to Account 146, Other Deferred Debits, by Balance Sheet Journal Entry No. 101.

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Volume II of this report, as stated hereinbefore, deals with adjustments made by the examiners and includes a summary of all adjustments, together with adjusting journal entries and a detailed explanation of each.

JOHN W. PACE,

Senior Examiner of Accounts.

EDWARD L. DUNN,

Examiner in Charge of Field Assignment.

Clarksburg, West Virginia

February 20, 1941

Approved:

W. E. BAKER,

Chief Accountant.

CHAS. W. SMITH,

Chief, Bureau of Accounts,

Finance and Rates.

Docket G-113

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Schedule No. 1
Sheet 1 of 2

HOPE NATURAL GAS COMPANY

Investment in Gas Plant Per Books and As Adjusted As At December 31, 1938

Schedule No.	Account Number	Description	Cost Per Books	Reclassification by Company.		Cost per Books Reclassified	Examiners' Adjustments		As Adjusted
				Dr.	Cr.		Dr.	Cr.	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Natural Gas Production Plant									
2	330.1	Natural Gas Producing Lands	\$ —	\$ 3,319.84	\$ —	\$ 3,319.84	\$ —	\$ —	\$ 3,319.84
	330.2	Natural Gas Producing Leaseholds—							
3		Operated	1,331,100.55	—	—	1,331,100.55	267,904.31	—	1,599,004.86
4		Unoperated	479,570.75	—	—	479,570.75	104,811.48	584,382.23	—
5	330.4	Rights of Way	530,476.17	9,412.94	8,978.33	530,910.78	181,930.98	67,450.29	645,391.47
6	330.5	Other Land and Land Rights	23,729.28	8,866.78	7,993.90	24,602.16	—	3,593.64	21,008.52
7	331.2	Field Measuring and Regulating Station Structures	30,244.11	3,894.08	5,520.62	28,617.57	651.94	8,130.59	21,128.92
8	331.3	Other Production System Structures	177,682.39	65,418.75	29,937.20	213,163.94	5,691.31	27,666.44	191,188.81
9	332.1	Producing Gas Wells—Well Construction	4,370,612.79	—	3,679.94	4,366,933.75	391,689.83	669,145.87	4,089,477.71
10	332.2	Producing Gas Wells—Well Equipment	7,893,605.30	—	8,023.71	7,885,581.59	8,078.12	283,149.96	7,610,509.75
11	333.11	Field Lines: Construction	3,040,755.47	35,999.16	38,233.64	3,038,520.99	921,753.13	337,784.54	3,622,489.58
12	333.12	Equipment	7,950,541.90	29,637.87	13,137.24	7,967,042.53	317,703.03	610,493.74	7,674,251.82
13	333.2	Field Measuring and Regulating Station Equipment	244,176.06	15,753.87	—	259,929.93	6,734.51	82,279.41	184,385.03
14	334	Drilling and Cleaning Equipment	387,555.33	156,184.60	—	543,739.93	52,752.85	800.07	595,692.71
15	337	Other Production Equipment	—	45,030.75	—	45,030.75	31,758.09	1,256.63	75,532.21
		Total Gas Production Plant	26,460,050.10	373,518.64	115,503.68	26,718,065.06	2,291,459.58	2,676,133.41	26,333,391.23
Transmission Plant									
16	351.12	Land	152,660.05	13,624.99	5,163.97	161,121.07	7,116.64	5,325.50	162,912.21
20	351.23	Rights of Way	551,354.41	697.91	56,331.85	495,720.47	52,298.61	156,776.39	391,242.69
17	352.2	Compressor Station Structures	1,760,317.25	489,844.60	539,885.67	1,710,276.18	102,623.88	371,017.68	1,441,882.38
18	352.3	Measuring and Regulating Station Structures	6,305.15	5,873.14	779.79	11,398.50	151.55	3,342.84	8,207.21
19	352.4	Other Transmission System Structures	6,709.29	997.85	359.03	7,348.11	—	572.42	6,775.69
20	353	Mains	14,614,229.98	296,750.65	292,513.14	14,618,467.49	556,162.13	1,042,554.90	14,132,074.72
21	354.2	Compressor Station Equipment	8,135,673.87	273,378.24	178,069.38	8,230,982.73	684,614.14	1,231,924.88	7,683,671.99
22	354.3	Measuring and Regulating Station Equipment	26,234.00	5,190.65	1,961.90	29,462.75	3,044.23	14,891.07	17,615.91
23	354.4	Other Transmission System Equipment	—	15,188.39	—	15,188.39	5,827.16	—	21,045.55
		Total Transmission Plant	25,256,484.00	1,101,546.42	1,075,064.73	25,279,965.69	1,411,838.34	2,826,405.68	23,865,398.35
General Plant									
24	370	Land and Land Rights	154,590.82	43.13	27,956.22	126,677.73	7,202.00	36,898.52	96,981.21
25	371	Structures and Improvements	262,605.30	26,385.90	51,667.86	237,243.34	2,176.81	13,612.37	225,887.78
26	372	Office Furniture and Equipment	239,989.32	—	—	239,989.32	13,516.77	74,822.75	178,683.34
27	373	Transportation Equipment	211,115.41	3,951.90	53,636.30	161,431.01	2,779.07	21,895.59	142,314.49
28	374	Stores Equipment	—	3,321.00	—	3,321.00	1,989.50	203.74	5,106.76
29	375	Shop Equipment	—	63,168.92	—	63,168.92	43,106.82	2,090.57	104,185.17
30	376	Laboratory Equipment	—	1,003.40	—	1,003.40	—	—	1,003.40
31	377	Tools and Work Equipment	449,871.11	—	249,110.52	200,760.59	9,319.42	205,534.68	4,545.33
32	378	Communication Equipment	254,602.17	—	—	254,602.17	—	5,626.43	248,975.74
33	379	Miscellaneous Equipment	20,484.22	—	—	20,484.22	525.00	19,861.38	1,147.84
		Total General Plant	1,593,258.35	97,874.25	382,370.90	1,308,761.70	80,615.39	380,546.03	1,008,831.06
		Total Gas Plant (Exclusive of Distribution)	\$53,306,792.45	\$1,572,939.31	\$1,572,939.31	\$53,306,792.45	\$3,783,913.31	\$5,883,085.12	\$51,207,620.64

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HOPE NATURAL GAS COMPANY
Investment in Gas Plant Per Books and as Adjusted
As at December 31, 1938

Schedule No. 1
Sheet 2 of 2

Schedule No.	Account Number	Description	Cost Per Books	Reclassification by Company		Cost Per Books Reclassified	Examiners' Adjustments		As Adjusted
				Dr.	Cr.		Dr.	Cr.	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
		Total Gas Plant (Exclusive of Distribution Plant)	\$53,306,792.45	\$1,572,939.31	\$1,572,939.31	\$53,306,792.45	\$3,783,913.31	\$5,883,085.12	\$51,207,620.64
		Distribution Plant							
	357.1	Land	19,151.18						
	357.22	Rights of Way	17,818.40						
	358.1	Measuring and District Regulating Station Structures	34,352.87						
	358.2	Other Distribution System Structures	84,840.06						
	359.1	Mains—Construction	625,556.29						
	359.21	Mains—Pipe	1,155,526.53						
	359.22	Mains—Fittings	152,376.28						
	360	Pumping and Regulating Equipment	51,388.06						
	361	Services	184,496.15						
	362	Meters	469,198.31						
	363	Meter Installations	378.91						
		Total Distribution Plant	2,795,083.04			2,795,083.04	19,995.41		2,815,078.45
	100.1	Total Utility Plant in Service	56,101,875.49			56,101,875.49	3,803,908.72	5,883,085.12	54,022,699.09
	100.3	Construction Work in Progress	81,392.75			81,392.75	16.65		81,409.40
34	100.4	Gas Plant Held for Future Use	—			—	789,118.73		789,118.73
35	107	Gas Plant Adjustments	94,814.75			94,814.75			94,814.75
36		Other Physical Property—Coal Property (100) ..	341,529.68			341,529.68		341,529.68	—
37		Franchises, Patent Rights and Other Intangibles (101)	30,185.91			30,185.91		30,185.91	—
		Total Gas Plant	\$56,649,798.58			\$56,649,798.58	\$4,593,027.45	\$6,254,800.71	\$54,988,041.97

Note: Distribution Plant Accounts have not been examined in detail.

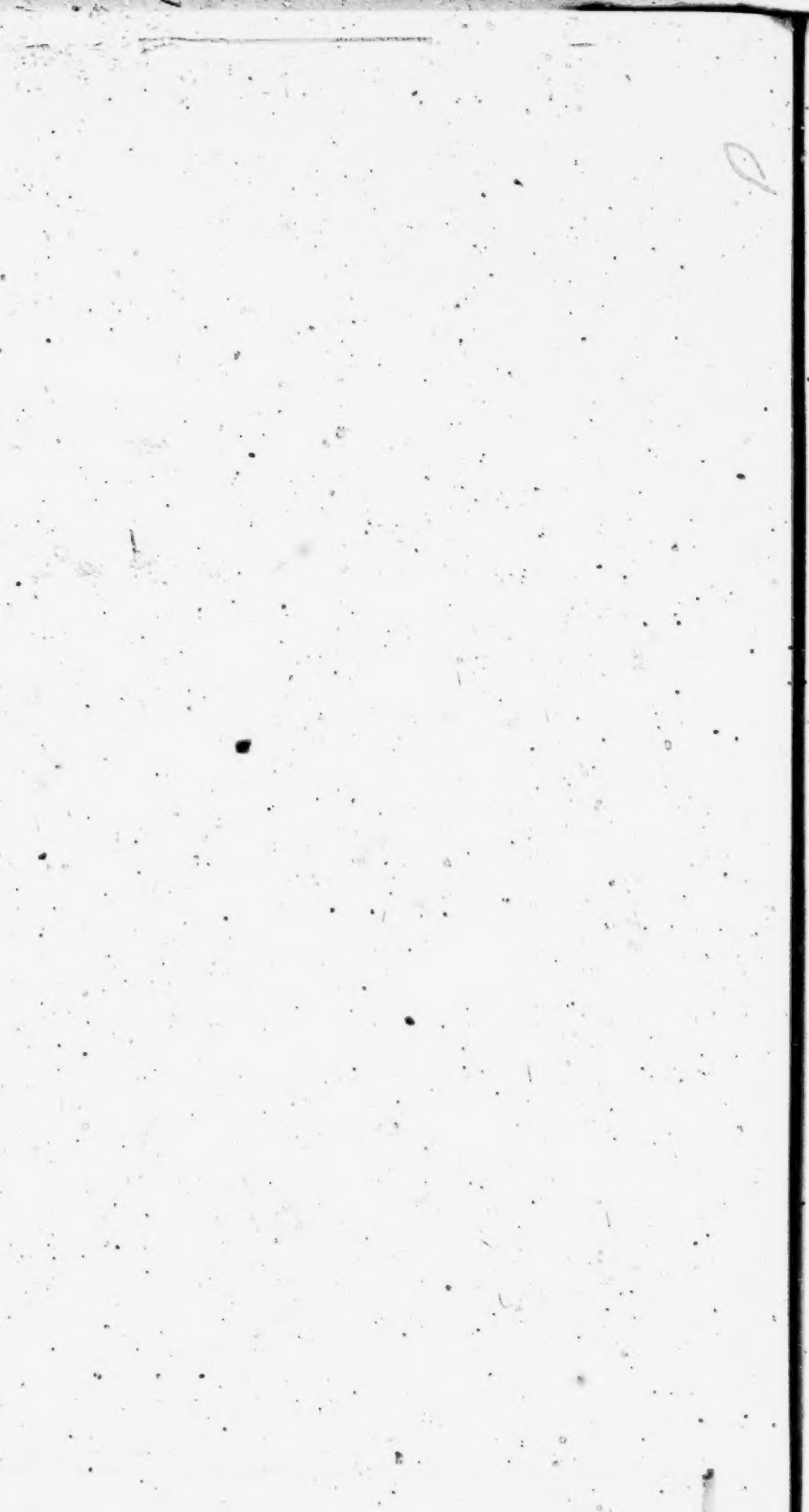
HOPE NATURAL GAS COMPANY
Summary of Examiners' Journal Entries Adjusting Plant Accounts
Showing Types of Adjustments and Contra Accounts Affected

		Total Examiners' Adjustments				100-4	110	
A. J. E. No.	Description	Company's Adjustments Per Original Cost Study (Exhibit 20)	Company's Adjustments To Prior Utility Purchases	Examiners' Other Adjustments	Total Examiners' Adjustments	Utility Plant Held For Future Use	Other Physical Property	
(a)	(b)	(c)	A. J. E. No. (d)	Amount (e)	(f)	(g)	(h)	(i)
	Company Adjustments Accepted By Examiners:							
300	Transfers to and from utility plant in service accounts. <i>Debits</i> — \$ 466,187.96 <i>Credits</i> — (466,187.96)							
301	Adjustments to agree with adopted inventory	\$(179,769.12)	326	\$(8,227.19)		\$(187,996.31)		
302	Capitalized structures or materials removed	(269,273.27)	327	(5,831.43)		(275,104.70)		
303	Depreciation on purchased property	(412,186.80)				(412,186.80)		
304	Abandoned—Still on books	(78,905.51)	329	(20,336.25)		(99,241.76)		
305	Items on books found in storage	(37,464.60)				(37,464.60)		
306	Transfers to and from other than utility plant in service ac- counts	(211,080.04)				(211,080.04)	\$ 13,967.21	55,505.81
307	Adjustments of vouchers M-699 and A-155 estimates	(158,767.75)	331	(67,101.74)		(225,869.49)		
308	Voucher charges to investment not in ledger	69,559.52				69,559.52		
309	Correction of voucher amounts and records	53,805.31	332	(48,145.03)		5,660.28		
310	Estimated cost of obtaining	11,814.46				11,814.46		
311	Recording costs—From original papers	5,719.50				5,719.50		
312	Damages due to maintenance	(8,402.43)				(8,402.43)		
313	Removal of amounts shown on books—No equipment added at corresponding time, repairs, or could not identify charges on vouchers	(11,284.41)				(11,284.41)		
314	Improper charges and credits	51,003.29	333	(1.00)		51,002.29		
315	To restore original cost	38,992.16				38,992.16		
316	Repairs and replacements	(79,832.19)				(79,832.19)		
317	Fleet owners and quantity discounts	(2,227.40)				(2,227.40)		
318	Unproductive drilling deeper	(72,473.08)				(72,473.08)		
319	Removal of rig charges	(429,707.12)				(429,707.12)		
319	Arbitrary rig charges added	391,230.00				391,230.00		
320	Retirement of well construction—Change of well equipment...	(12,576.26)				(12,576.26)		
321	Adjustment for lines taken up	(344,550.43)	334	(24,257.94)		(368,808.37)		
322	Unretired labor	(263,977.16)				(263,977.16)		
323	Transfer to distribution system	(19,678.07)				(19,678.07)		
324	To balance with books	167,236.40	335	(57,953.77)		109,282.63		
325	Miscellaneous small adjustments	(1,588.48)				(1,588.48)		
--	Transfers to and from utility plant in service accounts. <i>Debits</i> — \$ 8,797.21 <i>Credits</i> — (8,797.21)		328	—		—		
--	Abandoned lines not removed		330	(1,076.34)		(1,076.34)		
	Examiners' Adjustments:							
336	To reinstate construction costs expensed				\$ 1,480,227.70	1,480,227.70		
337	To transfer adjusted cost of property used to transport coke oven gas				(762,592.06)	(762,592.06)		762,592.06
338	To transfer to "Utility Plant Held For Future Use," the ad- justed cost of field lines connected to non-producing wells.				(21,126.61)	(21,126.61)	21,126.61	
339	To realize depreciation on retirement of prior utility property				(3,106.27)	(3,106.27)		
340	To transfer to "Other Physical Property," cost of sites for- merly used for compressing stations				(901.50)	(901.50)		901.50
341	To transfer to "Utility Plant Held For Future Use," the ad- justed cost of unoperated leaseholds				(584,382.23)	(584,382.23)	584,382.23	
342	To transfer to "Utility Plant Held For Future Use," the cost of wells not connected to utility plant				(169,642.68)	(169,642.68)	169,642.68	
343	Transfer to construction work in progress—Account 100-3				(16.65)	(16.65)		
344	Transfer from production plant to transmission plant. (Dr. & Cr. \$6,965.64)				—	—		
345	Transfer within general plant. (Dr. & Cr. \$7,200.00)				—	—		
346	To transfer additional cost of prior units to distribution system				(317.34)	(317.34)		
Total Examiners' Adjustments		\$(1,804,383.48)		\$(232,930.69)	\$(61,857.64)	\$(2,099,171.81)	\$789,118.73	\$819,025.12

HOPE NATURAL GAS COMPANY
of Examiners' Journal Entries Adjusting Plant Accounts
ing Types of Adjustments and Contra Accounts Affected

Schedule No. 1-A

	100-4	110	100-3	144	250-1	250-2	250-3	271	Distribution Plant
aminers, Other ustments	Total Examiners' Adjustments	Utility Plant Held For Future Use	Other Physical Property	Construction Work In Progress	Retirement Work In Progress	Reserve For Depreciation Of Utility Plant	Res. For Amort. And Depl. of Prod. Nat. Gas Lands And Land Rights	Reserve For Abandoned Leases	Earned Surplus
(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
	\$(187,996.31)					\$ 187,996.31			
	(275,104.70)					275,104.70			
	(412,186.80)					412,186.80			
	(99,241.76)				\$ 99,241.76				
	(37,464.60)		\$ 25.75		37,438.85				
	(211,080.04)	\$ 13,967.21	55,505.81		141,607.02				
	(225,869.49)					225,869.49			
	69,559.52								\$(69,559.52)
	5,660.28								(5,660.28)
	11,814.46								(11,814.46)
	5,719.50								(5,719.50)
	(8,402.43)								8,402.43
	(11,284.41)								11,284.41
	51,002.29					(51,003.29)			1.00
	38,992.16					(38,992.16)			
	(79,832.19)								79,832.19
	(2,227.40)								2,227.40
	(72,473.08)								72,473.08
	(429,707.12)					429,707.12			
	391,230.00					(391,230.00)			
	(12,576.26)					12,576.26			
	(368,808.37)					368,808.37			
	(263,977.16)					263,977.16			
	(19,678.07)								
	109,282.63					248,281.03	\$(252,752.18)	\$(104,811.48)	
	(1,588.48)					1,588.48			\$19,678.07
	(1,076.34)				1,076.34				
480,227.70	1,480,227.70								(1,480,227.70)
762,592.06	(762,592.06)		762,592.06						
21,126.61	(21,126.61)	21,126.61							
3,106.27	(3,106.27)					3,106.27			
901.50	(901.50)		901.50						
584,382.23	(584,382.23)	584,382.23							
169,642.68	(169,642.68)	169,642.68							
16.65	(16.65)			\$16.65					



9. TESTIMONY OF COMMISSION WITNESS CHARLES W. SMITH AS TO PRINCIPLES OF ACCOUNTING, TUESDAY, APRIL 22, 1941, RECORD PAGES 2702 TO 2823.

—2702—

Whereupon, CHARLES W. SMITH, a witness called on behalf of the Commission, having first been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION by Mr. Springer.

Q. Will you state your full name and position, please?

A. Charles W. Smith, I am chief of the Bureau of Accounts, Finance and Rates, of the Federal Power Commission.

Q. Will you please state your qualifications? A. I have a B. S. degree in finance and business administration, and, also, an L.L.B. degree. I am a certified public accountant of North Carolina and of Maryland, the first having been obtained about eighteen years ago. I am a past president of the Maryland Association of Certified Public Accountants and a member of the American Institute of Accountants, the American Accounting Association, the American Economic Association, the American Bar Association, and an honorary member of Delta Sigma Pi, an international commerce fraternity, and Beta Alpha Psi, a national accounting fraternity. I am also a member of the Committee on Statistics and Accounts and the Committee on Depreciation of the National Association of Railroad and Utilities Commissioners. I have been admitted to bar of the Court of Appeals of Maryland and the Supreme Court of the United States.

—2703—

For nine years, beginning in 1920, I was an auditor in the Income Tax Unit of the U. S. Treasury Department and, in this capacity, I audited the income tax returns and

books and records of practically every type of business corporation, including public utilities. On June 1, 1929, as the result of obtaining the highest mark in a competitive examination, I became the Chief Auditor of the Public Service Commission of Maryland, remaining in that position for seven years. I joined the staff of the Federal Power Commission on July 1, 1936, in substantially my present capacity.

For ten years I taught accounting in evening schools in Baltimore, Maryland, including eight years at Johns Hopkins University where I gave the course in accounting systems and for two years the course in cost accounting. These courses were for both day and evening students.

I have written several articles on accounting and economic subjects, including a text on accounting systems for my classes at Johns Hopkins. I have delivered more than fifty lectures, including two radio addresses, on accounting, financial and economic subjects.

While with the Maryland Commission, I did a good deal of work as consultant in accounting, taxation and finance in my spare time. On one occasion I obtained leave of absence to do some consulting work for the Tennessee Valley Authority and on two other occasions I was granted leave to act as consulting accountant to the Federal Power

—2704—

Commission. On these latter two occasions I supervised the drafting of the Uniform System of Accounts which the Commission has prescribed for public utilities.

While in the employ of the Public Service Commission of Maryland, I had charge of all accounting, auditing and financial matters which were under the jurisdiction of that body. This included the making of the usual accounting investigations for all regulatory purposes, all studies relating to the issuance of securities, financial structures, rate of return, et cetera.

In my present position I have charge of four divisions of the Federal Power Commission, namely, the Division of

Accounts, Division of Finance and Statistics, Division of Rates and Research, and the Division of Original Cost. Altogether, I have testified in more than thirty public utility cases.

Mr. Springer: Mr. Examiner, when Mr. Smith testifies on depreciation principles later, I would like to have him add to his qualifications.

Now, may I have marked for identification as Exhibit No. 57 and Exhibit No. 57-A, volumes I and II, entitled "Original Cost of Gas Plant as at December 31, 1938," referring to the Hope Natural Gas Company?

Trial Examiner: They may be so marked.

(The documents referred to were marked, respectively, as Exhibit No. 57 and Exhibit No. 57-A for identification.)

By Mr. Springer:

—2705—

Q: Mr. Smith, referring to the exhibits marked for identification as 57 and 57-A, are they the result of an accounting investigation undertaken in conformance with the original order of investigation in the Hope Natural Gas rate case? A. That is true.

Q: Was this investigation conducted under your general supervision and direction? A. It was.

Q: Will you explain how this supervision and direction were exercised? A. I exercised supervision directly by discussing with each examiner in charge the principles and the methods on the problem involved in the investigation. These discussions took place in the offices of the company, and in my office in Washington.

Supervision was also exercised indirectly through Mr. Baker, the chief accountant of the Commission, and Mr. Jackson, formerly assistant chief accountant of the Commission.

I discussed with these gentlemen all of the problems and methods involved in the investigation before they

visited the offices of the company to review the work, and had conferences with them upon their return.

Q. What were your instructions as to the determination of the original cost of the properties of the Hope Natu-

—2706—

ral Gas Company? A. The staff was instructed to determine original costs in accordance with the system of accounts prescribed by the Commission for public utilities and licensees.

At the time the investigation began, the Commission had not prescribed a system of accounts for natural gas companies.

I anticipated however that when the system of accounts for natural gas companies was issued, the original cost provisions would be the same as in the system for the electric utilities, and I was right in that anticipation.

Q. Is the system of accounts prescribed by the Federal Power Commission for natural gas companies substantially the same as the system of accounts adopted by the National Association of Railroad and Utilities Commissioners? A. Yes, it is almost word for word the same.

Q. And you have stated that some of the provisions are the same for the system of accounts prescribed for public utilities and licensees? A. Many of the provisions are the same, particularly the provisions relating to the determination of original costs:

Q. Are the provisions relating to original costs the same as those in the system adopted by the National Association of Railroad and Utilities Commissioners for electric utilities?

Mr. Cockley: I object to that. What has that got to do with what we are concerned with here?

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Mr. Springer: It shows the uniformity of accounting systems for all types of utilities. It is very proper, Mr. Examiner.

• Trial Examiner: The objection is overruled.

• The Witness: They are the same.

By Mr. Springer:

Q. Are such accounting systems in widespread use today? A. They are. The system of accounts for electric utilities is effective for about 95 percent of the industry, the electric industry, measured by revenues or plant.

The system has been adopted by some 29 commissions.

The system of accounts for gas utilities has been adopted by about 18 commissions.

Of course certain commissions have made some changes, primarily to conform to local conditions.

Q. Will you explain how the system of accounts for natural gas companies prescribed by the Federal Power Commission was compiled, showing particularly how uniformity was obtained by the national associations and the Federal Power Commission?

Mr. Cockley: I object to that. He is now going into how the uniform system of accounts was adopted. Are we going to try out the question of whether or not it was properly adopted, or what changes were made in going through its adoption, and so on?

—2708—

Mr. Springer: This is still the original objective of showing the uniformity and consistency in accounting principles in most of the systems of accounting in the United States.

Mr. Cockley: I submit it hasn't a thing to do with this present rate case. I haven't any objection to this witness testifying as to how much of this exhibit he accepts responsibility for, and what principles he instructed his subordinates to follow in carrying it out—I assume that that is his purpose—but to go into the history of the theory of accounting in the United States on these uniform systems of accounts, and how the Federal Power Commission has

prescribed for electric utilities or other utilities, or the National Association of Railroad and Utilities Commissioners has prescribed for other utilities, hasn't a thing to do with the simple problem we have got here.

Mr. Springer: It happens to be vital to the problem we have here. These are principles of accounting. Mr. Smith is taking the logical preliminary step of testifying on principles of accounting, and then he will show that they were employed in the preparation of this accounting exhibit.

Mr. Cockley: That isn't what your question asked, as I understand.

Trial Examiner: Read the question, please.

(The pending question was read by the reporter.)

Mr. Cockley: He wants to know how it was compiled.

—2709—

Trial Examiner: Well, it seems to me that it is somewhat remote, but it is perhaps preliminary to questions which will bring it up closer to our subject.

Mr. Springer: Precisely.

Trial Examiner: The objection is overruled.

Mr. Cockley: Note an exception.

The Witness: The Federal Power Commission retained me in 1935 to work with the Committee on Statistics and Accounts of the National Association of Railroad and Utilities Commissioners in drafting a new system of accounts for electric utilities.

As soon as that system was prepared, a system was prepared for gas utilities. I did very little work on the latter system at that time. The two systems were adopted by the National Association and the electric system was adopted by the Federal Power Commission. When the Natural Gas Act was passed, the Federal Power Commission instructed me to look towards the drafting of a system of accounts for natural gas companies.

I worked with the Committee on Statistics and Accounts of the National Association in compiling certain revisions of the system which had been adopted by that organization in 1936; when the revisions were agreed upon, they were adopted by the National Association, and the resulting system was adopted by the Federal Power Commission.

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It was in this manner that uniformity in the system of accounts, particularly uniformity in regard to provisions relating to original cost, has been obtained.

By Mr. Springer:

Q. Do you know of any other system of accounts promulgated by regulatory bodies which requires the keeping of plant accounts in accordance with what is known as the original-cost principles?

Mr. Cockley: I object to that. There is no issue here at all about how a company should keep its plant account. This isn't an accounting case, but a rate case, and it is wholly immaterial.

Mr. Springer: This is in the category of the other preliminary questions, to show uniformity and consistency; and consistent with your former ruling I think you will have to rule in my favor this time.

Mr. Cockley: An earlier error doesn't excuse a later one, if I may suggest. (Laughter.)

Trial Examiner: Well, it seems to me that the Commission is raising some question here which will make this point directly in issue. The objection is overruled.

Mr. Cockley: Note an exception.

The Witness: The Federal Communications Commission in 1935 prescribed a system of accounts for telephone carriers in which the original cost principle is set forth.

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The system of accounts prescribed by the Interstate Commerce Commission for pipeline companies in 1935 likewise provides for original cost accounting, although the term "original cost" is not used. The language, in other words, is not the same, but the substance is there.

And the system of accounts adopted within the last five years by the National Association of Railroad and Utilities Commissioners for water companies, likewise provides for the keeping of accounts according to the original cost doctrine.

By Mr. Springer:

Q. How is original cost defined by the Federal Power Commission system of accounts? A. Original cost, as applied to gas plants, means the cost of such property to the person first devoting it to public service.

Q. Will you explain the general underlying principles of the original cost provisions of the uniform system of accounts for natural gas companies? A. Specifically, the original cost provisions relate to acquisitions of operating units or systems. As public utility operating units or systems are acquired, some means must be found for distributing the purchase price to the various accounts.

The purchase price usually contemplates the earning power of assets, the fact that customers are attached, the

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fact that properties acquired represent a profitable business, and other factors.

One of the most difficult problems of accounting involves the accounting for acquisitions of going businesses.

When one public utility acquires the properties of another, it is necessary to distribute the purchase price in some manner to the various accounts, as I have just indicated.

Heretofore, distributions often have not been made, and the purchase price has been continued as a lump sum in one account, without ever afterward changing it.

In a great many cases, the distributions were most unsatisfactory.

Accordingly, the system of accounts attempted to solve this problem by requiring the original cost of the acquired properties to be set up in the various plant accounts, and any differences between the original cost figure and the actual cost to the acquiring company, to be entered in a special account called Account 100.5—Acquisition Adjustments Account.

Mr. Cockley: Mr. Smith, pardon me, I don't like to interrupt you, and I apologize for doing it, but if you will read your answers a little slower, we will be able to understand them better, because you appreciate we have not had a copy of the answers from which you are reading.

The Witness: Mr. Cockley, I have just a few answers which I will read. Most of them will be delivered without

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reading. The ones where I thought I might become involved, or go off on a tangent, I reduced to writing, but I will try to read those slowly.

Mr. Cockley: My point is that you were reading a little too rapidly to follow you.

The Witness: The original cost doctrine specifically relates to the acquisitions of operating units or systems.

By Mr. Springer:

Q. How are the costs of properties constructed by the accounting utility, accounted for, Mr. Smith? A. They are accounted for at cost to the utility according to an established plan of accounting. When these costs are accounted for by the utility according to a bona fide and acceptable accounting plan, and when the costs of operating units acquired are accounted for in accordance with the original cost principles, then we have the original cost of properties recorded in the various plant accounts.

Q. Well, is the original cost of the properties constructed by the Hope Natural Gas Company, the cost ac-

counted for in the past exclusive of errors in accounting?

A. Yes, that is true. In other words, the cost of the company's own construction, as recorded on its books, except for accounting errors, is the proper original cost.

Q. Now, referring to the Commission's uniform system of accounts for natural gas companies, is there any

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authority under that system of accounts for a company like the Hope Company to re-account for its own construction in such a manner as to increase the amounts heretofore entered in the accounts, if the original entries were in accordance with accepted principles of accounting?

Mr. Cockley: I object to that. That exhibit speaks for itself. It is already an exhibit, as I understand it, in this case, and there is no occasion for asking the witness his construction of it; and it is wholly improper to do so unless some question arises about it.

Mr. Springer: Mr. Cockley, you prevailed with your objection to the admission in evidence of this document. It is not an exhibit.

But at the same time, we are talking about accounting principles and I am asking Mr. Smith a proper question in line with his development of the original cost principles.

Mr. Cockley: And the proper way to prove it is through the introduction of that exhibit in the case. If it now becomes relevant, whereas it wasn't before, the Examiner could admit it or not. But to have a witness testify that, taking this system of accounts—this is proper or that is proper, I submit is wholly improper.

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Mr. Springer: May I have marked for identification as Exhibit No. 58, a copy of the Federal Power Commission's uniform system of accounts prescribed for natural gas companies, effective January 1, 1940?

Trial Examiner: It may be so marked.

(The document referred to was marked as Exhibit No. 58 for identification.)

By Mr. Springer:

Q. Mr. Smith, I show you Exhibit No. 58 for identification. Is that the document you have just described? A. It is.

Q. Is that the system of accounts I referred to in my last question? A. It is.

Mr. Springer: I offer Exhibit No. 58 marked for identification, in evidence.

Mr. Cockley: There is no objection to the identification of this document, we admit what it is. I do object to it as wholly immaterial in this case, and I want to preserve that objection of record.

Mr. Springer: It happens to be the crux of the case, Mr. Trial Examiner.

Mr. Cockley: Well, somebody else than you will decide that, I am happy to say.

Mr. Trial Examiner: The objection is overruled. Exhibit
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No. 58 is admitted into evidence.

(Exhibit No. 58 received in evidence.)

Mr. Cockley: Note an exception.

Mr. Springer: Will you please read my original question to Mr. Smith?

(Whereupon, the reporter read the pending question.)

Mr. Cockley: That question I object to. The system of accounts is now in evidence and will speak for itself.

Mr. Trial Examiner: Well, it seems to me that the form of question is perhaps somewhat objectionable; but the substance of it is rather important and proper. The objection is overruled.

The Witness: The answer is no, and that has been my consistent interpretation of the system of accounts and the companion system, the one for electric utilities, since they

were adopted; and I might add that I am authorized by the Commission to issue interpretations over my own signature, and I have made many such interpretations.

By Mr. Springer:

Q. Will you please define reaccounting as distinguished from reclassification of accounts? A. Reclassification is a distribution of the amounts in the accounts—

Mr. Cockley: (Interposing) I don't like to object all the time, but I want to object to this question. There is no

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issue here at all about the method of reaccounting or reclassification, as I understand it; and may I have a general objection here to these general accounting questions that are not related specifically to the exhibits in this case, and then I will retire in peace and let him go ahead?

Trial Examiner: Yes, I think that would be proper.

Mr. Springer: I would like to have a statement then that all of the accounting principles are related and embodied in the proposed exhibit on original costs.

Trial Examiner: The general objection is overruled; you may have an exception.

By Mr. Springer:

Q. Will you please start again, Mr. Smith, on the distinction between reaccounting and reclassification? A. Reclassification is a redistribution of the amounts in the books of account. Reclassification deals particularly with what we know as real accounts, that is the balance sheet accounts.

The accounting system provides for a reclassification in that it provides that certain amounts recorded at one place in the balance sheet shall now be transferred to another account. Particularly is this true in respect to plant accounts. We have different plant accounts in which the amounts in the books are redistributed.

Reaccounting on the other hand goes not to the clas-

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sification so much as to the amounts themselves.

By reaccounting we mean going back to the time of the original transaction and restating that transaction so as to get a different cost, different plant cost, a different cost of some real account than appears in the books in respect to the transaction.

Q. Well, in consequence a reclassification does not change the total dollars in plant accounts, does it? A. That is correct.

Q. But a reaccounting may? A. Yes.

Q. Which is improper? A. It is improper, a reaccounting generally is improper. I want to make the reservation that it is always proper to correct pure accounting errors.

Q. Will you explain any provision in the system of accounts which prohibits the reaccounting which you have described? A. Gas plant instruction 2(b) deals with this matter, and the particular part of that instruction which is pertinent reads as follows:

"It is likewise not intended that adjustments shall be made to record in gas plant accounts amounts previously charged to operating expenses in accordance with the uniform system of accounts in effect at the

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time, and in accordance with the discretion of management as exercised under such uniform system of accounts."

Q. Will you please explain that provision? A. In other words, reaccounting does not conform to sound principles of accounting, and this provision was inserted in the system of accounts to make doubly sure that no one would construe the system of accounts as authority for such reaccounting.

Q. Suppose the cost of the company's own construction was entered in its accounts at a time when regulatory commissions had not prescribed systems of accounts, could the company under the system of accounts now in effect reaccount for items accounted for during this period? A. If your items were accounted for properly in the first instance, they could not be reaccounted for; in my opinion.

Q. Do you care to elaborate on that, Mr. Smith?

Mr. Cockley: I object to it. The witness has answered the question.

Trial Examiner: Objection sustained.

By Mr. Springer:

Q. That is, the determination of cost is one of the chief purposes of accounting? A. The determination of cost is one, if not the chief, purpose of accounting, but many kinds

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of cost are involved in accounting.

We have costs of plant and we have costs of operations. The most difficult accounting problem is the allocation of costs to a particular operating period such as a year. There is no precise answer in regard to the latter problem. Considerable judgment must be used in allocating costs to a particular period of time, and in this field considerable discretion is allowed under the accepted principles of accounting.

Q. Is it as difficult to determine the revenues for a period as it is to determine the costs? A. No, it is not. Ordinarily, there is very little problem in ascertaining the revenues over a particular period, but where a company expands its business and it has betterments and improvements, the difficulty of determining the cost of operations, the cost of keeping up that business, and the cost of the additions and betterments, is sometimes pretty great. It is in this particular field that considerable discretion is allowed in the field of accounting.

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Q. Then it is difficult to draw the line of demarcation between the cost of the additions and maintenance expenses, I take it? A. Yes, it is difficult, and that is recognized by all accountants having any real experience in that particular field.

Q. In that particular field is it necessary to be consistent? A. It is necessary to be consistent; in fact, consistency in this respect is of particular importance. The principles followed by a company should be consistently applied from year to year. Changes, of course, are permitted, but in public utility accounting, at least, they should be adopted for the future and properly explained.

The absence of consistency in the application of principles may lead to most inequitable results. In fact, failure to be consistent in matters of accounting may lead to distortion and manipulation.

It would be an easy matter to manipulate a financial statement by merely being inconsistent in the treatment of important items from year to year.

This view is so widely held that practically all certificates of public accountants to financial statements now contain a positive assertion with reference to the principles of consistency. The certificate, sometimes called the short

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form of report, recently approved by the American Institute of Accountants in connection with statements to the Securities and Exchange Commission, reads in part as follows:

"In our opinion, the accompanying balance sheet and related statements of income and surplus present fairly the position of the XYZ Company at February 28, 1941, and the results of its operations for the fiscal year, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year."

The emphasis on consistency is apparent.

To illustrate that point, if well drilling costs were charged to expense during the years large profits were realized, and if they were capitalized during poor years, distorted statements would be reflected and manipulations consciously or unconsciously practiced.

Such statements could not help but be misleading. Hence the importance of the principle of consistence in accounting.

Q. Now referring to the Federal Power Commission System of Accounts for Natural Gas Companies again, Mr. Smith, do variations exist in accounting under that system of accounts? A. They do.

Q. Will you explain some of those variations? A. Some companies capitalize no general and administrative expenditures at all, whereas other companies capitalize as much as possible under accepted accounting principles.

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Some utilities add all the interest possible to plant costs, whereas others contend that if they do not pay interest, no interest should be charged to plant assets.

Some companies try to determine the exact time of each laborer, of each mechanic, spent on each job, and charge the specific labor cost to that job; whereas, others use an average rate, such average being based in some instances upon a crew of workmen, and in some instances for an entire group or a division, and in some instances yearly averages of pay, with proper adjustment allowances for sick leave and vacation, are reported.

Sometimes the labor cost is associated with a machine, such as a steam shovel, and a machine hour rate includes the labor rate.

Many variations likewise exist in regard to accounting for materials.

Except for large identifiable units, many materials must necessarily go into plant, and into operating expenses at average cost of one kind or another.

Thus a stock of pipe of a certain size may have been acquired at various unit costs. When the pipe is used for maintenance purposes, and for the purpose of making additions and betterments, some assumption, such as the "first in—first out," or some average cost, is employed, and very frequently this average cost gives recognition to re-used

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materials on which the original cost, the actual specific original cost, cannot be found.

There is no certainty that the particular piece of pipe that was charged to plant was charged at the actual cost of that particular piece of pipe. There is no reason, in fact, why this should be so.

Many practices regarding the replacement of property have existed in the past, and the practices today are not altogether uniform.

A study of the reports of American Railroads to their stockholders during the last century, will disclose many interesting illustrations of the difficulties of determining the difference between what should be charged to maintenance and what should be charged to plant.

The area of choice in maintenance accounting has been somewhat restricted under our system of accounts by the prescribing of a list of retirement units of property, but even under that list, variations still exist.

Thus, while there are broad principles of accounting, variations exist between these principles. No one can say that one particular variation is absolutely correct, and another absolutely wrong. No one can say, for instance, that only one method of accounting for labor costs is proper. Many methods of accounting for labor costs are in vogue, and the question is not so much what is right or

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wrong, but rather what is the better practice in a particular case.

This statement is likewise true as to material costs and it is even more true as to accounting for overheads.

In accounting for overheads, there is no one best method of distributing the amount. The method must necessarily be somewhat arbitrary. Certified public accountants do not hesitate to certify statements which do not conform to what they deem might be the best method. The same firm of accountants, in fact, frequently certifies to statements of different companies, employing different methods such as I have just outlined, and as far as I can see, they are right in both instances.

Q. Mr. Smith, assuming that a transaction is accounted for under one of the permissible variations, should it later be re-accounted for?

Mr. Cockley: I object to that. There is no evidence of any such thing in this case, nor will there be.

Mr. Springer: This is a question directed to the principles of accounting.

Trial Examiner: The objection is overruled.

Mr. Cockley: Exception.

The Witness: Once a transaction is accounted for by consideration of the entire setting at the time of the transaction, and has been accounted for under one of the alternatives of accounting principles, it should not be changed

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at a later date, particularly when the change is brought about merely because someone thinks a better answer could be obtained. If the accounting in the original instance conformed to sound principles, it should remain accounted for in that fashion, and that is especially true of businesses such as public utilities, in which there is a deep public interest.

Trial Examiner: The hearing is recessed, to reconvene at 2 o'clock.

(Whereupon, at 12:40 o'clock p. m., a recess was taken until 2 o'clock p. m., of the same day.)

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Afternoon Session.

The Trial Examiner: Gentlemen, the hearing will now be resumed.

Mr. Cockley: Before we proceed with the examination of this witness, Mr. Examiner, I would like to direct attention to the situation that is causing us considerable delay in the preparation of this case.

One of the principal exhibits that has been furnished us, and one that will soon be offered in evidence, if not the next, after these original cost exhibits are out of the way, is an exhibit that was prepared by Mr. French, of the Commission's staff, showing estimated lives of various classes of properties, which is a fundamental exhibit on which the depreciation determination is to be made.

We advised Mr. Springer on April 1st, when we received that exhibit, that we would have to see Mr. French's working papers to see what he had done, because the exhibit itself does not disclose that fact. We were told that he would not be available the coming week but would be on April 14th. On that date a couple of our men did interview Mr. French and asked for copies of various working papers that were necessary in order to understand what he had done. He insisted upon having copies of those prepared himself. They were not delivered to us until Saturday night, April 19th, after we got down here.

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Then, it developed this morning on the pipe accounts that we had no working papers on the other accounts, and that the papers on the pipe accounts lacked some key information that was necessary to a complete understanding of them.

We are now told that other work papers absolutely essential to any preparation of any examination of this exhibit will not be ready until Wednesday or Thursday of this week.

It is obvious, of course, that we can not examine them and be prepared to cross examine immediately upon their production. I would like to call that to the attention of the Commission and the attention of counsel to see if we can not have some arrangement by which we will get the work papers within a reasonable time so that we can prepare for cross examination.

Mr. Springer: We endeavor to accommodate counsel in each case. Mr. French was on a field assignment, which prevented our having access to his work papers to be reproduced for the convenience of the company men. But we will continue to cooperate with them to the best of our ability.

Mr. French was sent to New York the first part of this week. That is the reason for the delay in connection with the additional work papers that Mr. Cockley men-

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tioned. Of course, we will furnish them. They are surely entitled to them. It is just a matter of a man working concurrently on more than one case; and he can not be at the Washington office at all times.

The Trial Examiner: Does he have to be here?

Mr. Springer: Yes, sir. They are his working papers. I think it is necessary when experts examine the work papers of other experts that the man who employed them as a foundation for an exhibit should be present. That is a matter of professional courtesy, as I understand it.

The Trial Examiner: I understood the work papers were being reproduced to be delivered to the company.

Mr. Springer: That is correct. The matter of the time required for reproducing the work papers I believe is the explanation of the delay.

We will continue to cooperate as much as we can.

The Trial Examiner: What I am trying to find out is why the work papers were not available at the time the exhibit was served. It seems to me that Mr. French must

have known that the work papers would be required and arrangements might have been made to make them available.

Mr. Springer: That is correct. And arrangements were made when he returned from the field on April 14th and working papers were made available to representatives of the company who were present. And they have accom-

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plished a certain amount of the objective undertaken at that time. And when Mr. French returns tomorrow we will do our best to give them rapid service on any other working papers copies of which they desire to have.

The Trial Examiner: You may proceed with the examination of the witness.

CHARLES W. SMITH resumed the witness stand, and having been previously sworn, testified on behalf of the Commission as follows:

DIRECT EXAMINATION by Mr. Springer (resumed).

Q. Mr. Smith, do you have in mind the last question I asked you before the recess? A. I do not have the answer to it, but I do recall answering the last question fully.

Q. Mr. Smith, if a transaction is accounted for under one of the permissible variations, should it later be re-accounted for? A. That was the last question that was answered.

Q. Your answer was that it should not be re-accounted for, as I remember it. Does your answer imply that accounting errors should not be corrected? A. No, sir. Accounting errors should be corrected as soon as they are discovered. However, a distinction must be made between an accounting error and a correction of an accounting error

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and re-accounting.

Accounting errors represent mathematical errors errors in posting and entries of transactions which were not in accordance with the principles of accounting. Re-accounting is the restatement of the amounts which were entered properly in the first place to conform to some different condition.

To repeat, accounting errors should be corrected as soon as they are discovered.

Q. What is your definition of accounting errors? A. My definition of an accounting error is an entry which is an error in posting, a mechanical error, or an entry which did not conform to sound principles and practices of accounting.

Q. Would unrecorded retirements be an example of an accounting error? A. Yes, it would be. Where an item of property is in fact retired without any replacement having been made and an entry to record the retirement is not made on the books, that is an accounting error, known as an error of omission.

Q. Mr. Smith, it is sometimes said that, for the purposes of a rate case, we must compute the maximum cost of plant now in existence, regardless of how such costs were originally accounted for. This may mean that general

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administrative expenditures which were never capitalized should now be restated and included in plant and that items previously charged to maintenance should now be capitalized. In fact, statements of cost conforming to this principle have been filed as exhibits in this case. In your opinion, is it necessary or is it proper to re-account for transactions in order to get the maximum costs which I have just described? A. My answer is no.

Q. Then, you do not agree with the statement I have just made, that for the purpose of accounting and for the purpose of a rate case, you must follow the principle of getting the maximum costs of the property regardless of

how such property was originally accounted for? A. No, most positively I do not agree.

Q. Will you please give an explanation of the reasons for your answer? A. Accounting does not deal with plant accounts alone. It is most important to recognize this fact. Accounting does not, in fact, emphasize particularly plant accounts. Expense accounting is just as important as plant accounting. It is just as appropriate to get all possible costs in the expense accounts as it is to get all possible costs in the plant accounts. All the phases of a transaction must

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be analyzed at the time of the transaction in order to determine upon the correct entries. Plant phases and operating phases must both be considered. The answer must give proper weight to all factors. If we follow blindly the principle that all possible costs must now be assigned to plant, we fail to visualize the accounting process in all its entirety. We then make a fetish of plant costs. We forget that in determining upon an entry, many more things than the cost of additions and betterments are involved in accounting and in the running of a business. To repeat, all phases of the transaction must be studied and to concentrate on one phase only, that phase being how much can possibly be charged to plant accounts, warps the principles of accounting. Such false emphasis gives no heed to the cost of operating and maintaining the plant. It follows blindly an abstraction in a practical field of endeavor.

Q. Will you show how your reasoning applies in the case of general, administrative expense? A. Our System of Accounts permits a reasonable amount of the salaries of officers, general office clerks, and other general and administrative expenses, to be charged to plant accounts. I might note that the System of Accounts of the Interstate Commerce Commission does not permit such items to be allocated or prorated to plant accounts. Such expenditures, however, may, under our System of Accounts, be

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charged in toto to expense or a reasonable amount may be prorated to plant. The expenditures, of course, cannot be identified with any particular plant item and at best we can merely find a scheme of allocation, or proration, which will be deemed satisfactory. There are many variations in practice in accounting for the general and administrative expenditures which I have just described. It is not unnatural that this would be so because such expenditures are associated with all phases of the business, operations, maintenance, additions, betterments, the payment of dividends, interest, etc. There is no such thing as a one and only rule to follow in accounting for these expenditures. My own personal view is that the better practice is to charge such items to expense, except the specific, incremental costs which are incurred in connection with construction and these should be capitalized.

My reason for this view is that a utility is in business primarily to sell service or a commodity and not for the purpose of constructing additions and betterments, which are only incidental to the former. General and administrative expenses do not, in fact, fluctuate proportionately with construction and they should not be made to do so arbitrarily by some method of accounting.

If, to repeat, a utility determines that these items are expenses, I would recommend that the amounts be treated

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as expenses. If a utility charges a reasonable amount to construction, I would make no change for such accounting is satisfactory. When, however, such items are first charged to expense, as being a part of the cost of operating the business and then they are restated in plant, under the theory that the maximum cost of all plant items now in existence must be included in the plant accounts regardless of past accounting, a serious offense, I believe, is committed. Such a practice, to repeat, would emphasize only one phase of

accounting, namely, plant accounting. It would represent clearly a one-way street. It would treat plant costs as the end and purpose of accounting, and of business. The expenses I have mentioned are in reality joint costs and, as to joint costs, we all know that precise cost determinations are not possible of achievement. Where a reasonable and generally satisfactory answer has been obtained, it should not thereafter be vitiated by changing the philosophy of accounting so as to forget the entire setting of a transaction at the time of its occurrence and now aim at the highest plant costs obtainable under any principle.

Q. Will you please explain your answer from the viewpoint of maintenance accounting? A. I have already pointed out that there is no sharp line of demarcation be-

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tween the cost of adding to a plant and the cost of maintaining it. Before our recent system of accounts for natural gas companies was adopted, much more discretion was allowed in the field of maintenance accounting than is now permitted. Many replacement items formerly chargeable to the maintenance accounts must now be charged to plant and the cost of the old items removed. It is still the practice of railroads, for instance, to charge the cost of numerous replacements to expense. We have tried to obtain more uniformity in the field of maintenance accounting. Toward this end, the Commission has prescribed a list of what is termed "retirement units of property" which is required to be adhered to, with some slight exception, by natural gas companies. This list shows the items which, when replaced, must be treated as plant retirements and plant additions. If two lengths of gas mains, for instance, are replaced, the cost of the old mains must be taken out of the plant accounts and the cost of the new added thereto. If a single length is retired, plant accounts are not disturbed, but the cost of the new length is charged to maintenance.

The exception I spoke of a moment ago is that natural gas companies may refine the retirement list—may have more retirement units, in other words—but they cannot consolidate them. Again we have not established a principle of pure accounting science in drafting the list of re-

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tirement units. Rather we have been somewhat arbitrary in order to obtain better results and, in particular, more uniform results. In compiling the list of retirement units, representatives of the industry participated in the discussions. All such representatives were aware of the fact that we were trying to determine upon some good workable rule in the interest of uniformity, rather than to announce a new principle of accounting.

It cannot be said that the old practices of natural gas companies in regard to maintenance accounting are wrong and that the new methods are absolutely right; rather the new methods were designed to obtain better results and not to correct something which was absolutely wrong. To hold otherwise would be to hold railroad accounting of today to be wrong. When we follow the principle of obtaining all possible costs of existing plant regardless of how the costs were accounted for previously, we forget, in fact, we close our eyes to, maintenance practices. A new cost is then assigned to each existing item of property. If a railroad tie or a piece of iron pipe represented a replacement which was charged to maintenance expense, its cost is now included in the plant accounts. Under such a one-way scheme, accounting cannot function unless we make every conceivable expenditure associated with plant a unit of property and require it to be charged to plant. This

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would be a new kind of accounting. It would emphasize plant costs to the exclusion, or almost the exclusion, of operating costs. Conceivably under it, every time we would paint a structure we would have a new cost of the struc-

ture. Every time we replaced a tire or a tube or a brake lining, we would have a new cost for the automobile. This would be most unfortunate, in my opinion.

Q. Mr. Smith, are deferred debits and deferred charges synonymous in your terminology? A. They are frequently used synonymously. I might add that there may be a difference. I will have to know the connection in which you use the words in order to give you a technical answer.

Q. Sometimes, Mr. Smith, it is said that plant assets are deferred charges. Is that true? A. Yes; that is true. In the broad sense the cost of plant assets represents a deferred charge. You buy a piece of equipment, an automobile today, and it is capitalized and it is charged off during an operating period or over operating periods. In other words, its cost is deferred in part to the revenues of the future. In a sense, all plant assets are deferred charges.

Q. Is it easy to determine how much of such deferred charges is a proper expense of a given period? A. No; it is not. It is rather difficult to determine how much of

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the deferred charge representing large plant assets should be charged to a given operating period. A great deal of judgment must be exercised in making that determination. And that is one reason why business men, who are naturally conservative, are reluctant to add too much to deferred charges and postpone too much to the future. Generally speaking, in case of doubt, business men and accountants generally prefer to charge an item to expense today rather than defer it over the future. That is, naturally, conservatism, and it represents good, sound practice, in my opinion.

Q. In Exhibit No. 20 the company shows the addition to the book cost of plant of about \$17,000,000, under the theory that that amount must be added to book figures to obtain full and complete cost of plant in existence as of the end of 1938. Did you discuss these items with the staff and did you agree as to how such items should be treated?

A. We did discuss that. I discussed the items with the staff, and we are agreed as to their treatment. In fact, there was no disagreement on the part of any staff member.

Q. One of the adjustments proposed by the company in the exhibit mentioned related to overheads. Did you instruct the staff to add these overheads to the recorded

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cost of plant? A. I instructed the staff not to add the recorded expense items to the cost of plant.

Q. Why?

Mr. Cockley: I object to the long detailed reasons as to why it was done. He said what he did. Isn't that what we are interested in?

Mr. Springer: We are interested in this principle of accounting.

Mr. Cockley: If he thinks what he did needs some defense, yes. But it seems to me that it is a complete and perfect answer when he says "I instructed the staff to do so and so."

Mr. Springer: I thought it would be enlightening to have his reasons on this principle of accounting. We are on a vital point in this case, and he has already testified that he is responsible for the interpretation of the system of accounts for this Commission; and he is a most eminent authority on it.

Mr. Cockley: The accounting lecture that we have had so far was very interesting; but I can not see that very much of it has anything to do with Exhibit No. 57, except that it is apparent that Mr. Smith instructed the staff what to do with certain items.

Mr. Springer: I think it is important to have his rea-

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sons and why he gave such instructions.

The Trial Examiner: The objection is overruled.

Mr. Cockley: An exception, please.

The Witness: The company did not charge general and administrative overheads to the plant accounts at the time the original entries were made. This was its consistent practice. The practice of the company was not an unusual one at all, but I believe it conformed to the practice of the majority of natural gas companies. It conformed to sound accounting of the time and sound practices of today, in my opinion. I know, for instance, that many public utility companies do not include such overhead expenditures as a part of their plant cost at the present time. The items in the instant case have been properly charged to expense and, in my opinion, they should remain there. It would be wrong, therefore, to include such items in plant now and start depreciating them and perhaps allow a return on them. Such a practice would be bad accounting and, in my opinion, bad regulation as well. The addition of the overheads mentioned to the plant accounts would clearly not represent the correction of an accounting error. It would merely be substituting one alternative method of accounting for another which was used in the regular course of business and which was reflected in the financial statements prepared by the company, in its income tax returns, etc.

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The practice there conformed to sound practices of the time and, I think, sound practices as of today. I think it would be a write-up of accounts to permit those items to be included in plant today, either for accounting purposes or for rate making purposes.

By Mr. Springer:

Q. On Exhibit No. 20, about \$11,000,000 were added to the book figures for drilling costs which were originally charged to expense and not capitalized. What was your instruction to the staff regarding those items? A. I instructed the staff not to add that amount to the plant cost.

Q. Why did you give that instruction?

Mr. Cockley: May I have an objection to all of these why's? I take it that I may.

The Trial Examiner: Yes. The objection is overruled.

Mr. Cockley: An exception, please.

The Witness: From the inception of the company to the end of 1922, the company charged such expenditures to operations, that is, to expense. The practice conformed to the practice of natural gas companies at the time. Inasmuch as it conformed to good practice, I believe it would be wrong to permit the restatement of such items, to include them in plant accounts today.

There can be no doubt, in my opinion, but that it was

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the widespread practice and good practice at the time to charge such expenditures to operations. And I say that not only for natural gas companies, but all companies in other extractive industries as well.

By Mr. Springer:

Q. Then, it follows that the practice in not capitalizing the costs at that time was not an accounting error?

A. That is correct.

Q. Will you state why you think the charging of such items in that manner conformed to good practice at that time? A. Our study of the subject shows that the practice was widespread. In fact, I understand the practice still continues in the case of certain oil companies. The practice of charging intangible costs to expense was strongly advocated by the natural gas industry. The practice was changed, in my opinion, only because a change was required by regulatory commissions. I happened to be in the Income Tax Unit of the Internal Revenue Bureau when the question as to proper treatment of the so-called drilling costs—

Mr. Cockley: I object to this as wholly aside from anything that we have here now. Now we are going into

the personal experiences that he had in the Bureau of Internal Revenue. That is not responsive to the question.

The Trial Examiner: Well, he is testifying as to ac-

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counting principles and practices. I presume he intends to develop something relating to the practices.

The objection is overruled.

Mr. Cockley: An exception, please.

The Witness: I was in the Income Tax Bureau when this same question was presented. I had to make decisions on the subject at that time. The Income Tax Bureau ruled that such costs could either be capitalized or charged to expense at the election of the utility, provided the practice first established was consistently applied. A change after a practice had been established could not be made.

This is still a part of the Income Tax Regulations and will be found in Section 19.23(m)-16 (1) of Regulations 103.

I have made inquiry and find that most natural gas companies today continue the practice of charging well drilling expenditures to expense for income tax purposes. That was not something peculiar to the income tax law, because the income tax law of 1918 provided, among other things, in general language, that the books of accounts should be used where they properly reflected income.

When a system of accounts for natural gas companies was under consideration in 1919 by the Public Service Commission of Pennsylvania, the Natural Gas Association of America strongly urged that the expenditures mentioned be treated as operating expenses. They argued that such

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items constituted expenses. The Commission held, however, that the costs should be capitalized. This is a better practice from the regulatory viewpoint for many reasons. It is the practice required by our present system of

accounts. It, too, is more in line with present theories of accounting.

The decision of the Pennsylvania Commission was the first which to my knowledge required the capitalization of intangible production expenses. Other commissions followed the Pennsylvania Commission. I fully believe that regulatory commissions are responsible for the change from treating such items as operating expenses, to the requirement that they be capitalized. Some oil companies, as I have pointed out, still follow the old practice.

In general, intangible production costs were deemed to have been incurred to keep the company in business. Extractive businesses are often looked upon as single ventures. Under this viewpoint it was held the chief purpose of drilling new wells was to keep the company going. It was believed unwise to defer such costs over a future period. This is not an unusual principle as far as the extractive industries are concerned. Quite generally, items are charged to expense in such industries when they would be charged to capital by other business enterprises.

I know from having audited a great many accounts

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of mining companies, that many items normally capitalized in the manufacturing and commercial institutions are charged to expense by the extractive industries.

By Mr. Springer:

Q. Mr. Smith, I understand that the company, the Hope Natural Gas Company, for the years 1918 to 1922 charged off the cost of direct labor incurred in laying mains and similar labor in connection with compressor station construction and equipment installation. Is that true? A. I believe it is.

Q. What were your instructions in regard to those costs? A. I instructed the staff to include them in plant account.

Q. Why? A. First of all, the items were actually capitalized by the company in the first instance. After being capitalized they were arbitrarily written off at the end of the year in which capitalized. The company's practice did not conform to general practices or to accounting theory. Its practice, for this period, was an accounting error. I believe the practice was resorted to primarily to have the items allowed for income tax deductions, although I do not have any positive knowledge that this is true. In any event, I am of the opinion that an accounting principle was

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violated by charging off the capitalized items, therefore the amounts should be added to the plant accounts, as far as the general principles of accounting are concerned. I recognize, of course, that a different conclusion from what I have given may obtain for rate-making. It is possible that once a charge is made against customers in calculating rates, even though the charge were made in error, the same charge should not be exacted again. However, at this particular time, I am addressing myself to accounting principles and, as far as accounting principles are concerned, I believe it is proper to state the direct labor costs I have described as a part of the cost of plant.

Q. I understand, Mr. Smith, that the company in Exhibit No. 20 made certain adjustments to the book-cost of plant so as to conform to an inventory of its property which it compiled as of the end of 1938. What were your instructions regarding these adjustments? A. I instructed the staff to accept the company's adjustments. The inventory adjustments represented in the main a correction for unrecorded retirements. In other words, the company's inventory disclosed what we expected to be the fact—that a lot of property items had, in fact, been retired without a concomitant entry having been made in the books of account.

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In addition, however, there was disclosed many items which did not appear in the books. We accepted those items because we believed in large measure that they offset some of the items which were retired.

The problem of identification where an inventory is taken is enormous. Very frequently items are considered to be unrecorded retirements when, in fact, another item taking its place is added. The difficulty of identifying the units of property with the actual dollars is a great one. So we have accepted the inventory adjustments which, as I have indicated, in the main result in a correction for unrecorded retirements.

Q. Are there any other adjustments to the book figures which you wish to discuss? A. There were many adjustments made to the book figures, but most of these do not rest upon the fundamental principle that I am testifying to at this time.

Q. You have testified as to the original cost as contemplated by the Commission's Uniform System of Accounts for Natural Gas Companies. Does that cost, in your opinion, have any validity for any purpose other than matters of accounting? A. In my opinion, such costs should be considered the original costs for rate making and for all other purposes of regulation. In fact, I think they are

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the only valid costs for that purpose.

I make one exception to the latter statement, an exception which I have noted before, and that is where an item has been charged to expense in error, an item which should be charged to plant, there would still be considerable justification for the Commission's treating that item as an expense. And I think as far as costs are concerned, with the exception I have mentioned, costs computed in accordance with the Commission's uniform system of accounts are the only valid costs.

Q. What do you mean by "valid costs"? A. Costs, to have any validity for regulatory purposes particularly, must be ~~cost~~ computed in accordance with a definite scheme of accounting. In other words, as I have previously testified, in determining cost of plant and in determining the cost of operations, all phases of the particular transaction should be considered before the accounting entries are determined upon. If this is done, the resulting plant costs are valid, but if the costs are included both in expense and then restated in plant, the plant costs are, in my opinion, invalid. It would be most unfortunate, most inequitable, to follow abstractions in this matter and not give consideration to actualities. Items which are expenses should re-

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main expenses; items which are plant costs should remain as such. There is no validity, to repeat, to plant costs which are determined by transferring thereto previously recorded operating expenses after the operating expenses have served their purpose. Only costs which square with the treatment of operating expenses have any integrity for rate-making purposes, in my opinion. In this connection, I would like to cite a very pertinent example.

Today we treat delay rentals as expenses. Now, under the principle of determining maximum or abstract costs, delay rentals should be charged to plant. Delay rentals can be identified directly with particular leases. These costs are incurred before production is obtained. They represent a cost of carrying the leases until drilling is completed. If we follow the cost principle blindly, delay rentals should be charged to plant as a cost of the leases. There can be no question concerning this statement, in my opinion. Yet we have knowledge of only one company in the United States which capitalizes delay rentals and I understand that that company is glad to cease the practice.

Delay rentals are treated as expense because it is not deemed wise for a natural gas company to capitalize such items and postpone indefinitely in the future the charging

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of them to expenses. In other words, there is an overwhelming consensus of opinion that delay rentals constitute a current expense which should not be capitalized in spite of all the finely spun theory to the contrary. Even witnesses for the company have not followed this fine theory, although it is no more tenuous than the theory supporting adjustments for well drilling costs, overheads, etc. It seems to me to be axiomatic that if delay rentals are treated as operating expenses today, they should never be re-accounted for in the future as plant costs.

The only valid costs, to repeat, would be those which give recognition to the original treatment of delay rentals. If delay rentals are currently charged as operating expenses and years later they are added to plant costs, I submit that plant costs will have no validity whatsoever. Valid plant costs, to reiterate, are only those which give full recognition to all phases of the accounting process—expense accounting as well as plant accounting.

Q. Mr. Smith, financial statements are made in the ordinary course of business by the management, are they not? A. Yes; they are constantly being used by management.

Q. And on those financial statements information the management make their decisions, do they not? A. Yes, indeed. As a matter of fact, I believe it was Stuart Chase who said that when a business gets so large that one man

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can't take care of all of its details, accounting takes over. Naturally, financial statements are relied upon by executives in making their decisions.

Q. While re-accounting may be proposed by the utility, can it go back and undo the transactions which the

company entered into and the decisions which it made as a result of the facts shown by such statements? A. No. It is easy enough to transfer figures; and it is easy, the easiest thing in the world, to put another figure in the plant account and make the contra entry somewhere else in the books; but the decision of the management on the facts shown by the financial statement in the past can not be changed.

To give an example, natural gas companies generally consider well drilling expenses as expense. Undoubtedly their decisions were based upon that concept, and undoubtedly the practice had a good deal to do with the rates, charges and revenues of the companies. We can not go back and restate those matters of substance; we can not go back and make new rate contracts. It is an easy matter to change the accounting, but the substance remains permanently fixed.

Q. Have you made many accounting investigations for the purpose of determining original cost? A. I have.

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Q. How many? A. I don't know, but I have made a good many.

Q. Have the principles testified to by you in this proceeding been applied in making those investigations?

A. They have; and they have been consciously applied. Offhand I do not recall any more than two cases where I have restated the general administrative expenses. And yet I am familiar and was familiar at the time of making the investigation of many practices of accounting with regard to them. After studying such instances, if I deemed that they were accounted for under one of the alternative methods I made no change.

That applies with equal force as to the accounting for maintenance items. That makes me more than amazed when I find companies claiming that such items are now to be charged to plant accounts.

Q. The accounting principles to which you have now testified are applied and embodied in the original cost exhibit marked for identification as Exhibits 57 and 57-A, are they not? A. That is true.

Q. In the exhibits marked for identification as Nos. 57 and 57-A, is the cost on the company's books as adjusted by the Commission's accounting examiners synon-

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ymous with original costs as you have defined it and in accordance with the Commission's system of accounts?

A. Yes, to the extent that it relates to property shown in the exhibit. In other words, I make one qualification. We did not go into the distribution property of the company. And except for that one variation, the original cost is correct.

I had better change that. The statement shows the original cost of the company's property, excluding the distribution property.

Q. Mr. Smith, I believe that Mr. Antonelli, who sponsored Exhibit No. 20 showing the claimed original cost of the company, said he based his study upon the West Virginia System of Accounts for Natural Gas Companies. Are you familiar with that portion of the record? A. Yes. I believe that is correct.

Q. Are the provisions of the West Virginia System of Accounts and the Federal Power Commission system of accounts for natural gas companies substantially the same?

A. They are substantially the same. They were not word for word the same until November 29, 1940, when the West Virginia Commission amended its system. I happened to know about the amendment before it took place. I agreed therewith. The amendment does not change the principles at all.

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We have constantly interpreted our system of accounts to mean what the West Virginia Commission's system of accounts now reads with the amendment I just described.

Q. Then there is no difference between the West Virginia system and the Federal Power Commission system accounting principles and original cost principle to which you testified? A. Certainly not as to original cost.

Q. Mr. Smith, referring to the exhibit on original cost in two volumes, marked for identification as Exhibits 57 and 57A, and written statements and supporting schedules in those two volumes, if appropriate questions were directed to you, would that be your direct testimony in this case?

A. It would be my direct testimony in this case so far as principles are concerned. It must be remembered that we had as many as thirteen men on the assignment and, naturally, I could not check the details of the work of those thirteen men. As a matter of fact, I did not attempt to do so. The mechanics, the figures, the computations, etc., represent the work of others.

Q. Naturally. But your instructions on principles are embodied in this original cost exhibit? A. That is correct.

Mr. Springer: That is all the direct testimony of Mr.

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Smith at this time.

Mr. Cockley: I am prepared to cross examine Mr. Smith, subject perhaps to some further cross examination if after his testimony is written up and we can see it, we desire to do so. But I understood from Mr. Springer that for the convenience of Mr. Smith he wanted to have him testify at this time on principles of depreciation.

Mr. Springer: That is entirely satisfactory.

Mr. Cockley: I have no objection to that, but I just wanted it understood before we did it that I should probably cross examine Mr. Smith on this so-called original cost exhibit and perhaps Mr. Milde would wait to cross examine him on the other exhibit. I do not want to be limited by the usual rule of one man cross examining; as long as we do it on different exhibits.

If you want to go ahead as a convenience to Mr. Smith and have him testify on direct, I will be glad to have you do it.

The Trial Examiner: What is the particular advantage to Mr. Smith?

Mr. Cockley is present and we are ready for the cross examination with respect to the original cost. I can not see where it will affect Mr. Smith's convenience. He will have to be here for the cross examination, whether it is now or later.

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CROSS EXAMINATION by Mr. Cockley.

Q. As I understand, Mr. Smith, so far as Exhibits 57 and 57-A are concerned, you instructed your staff to prepare those in accordance with the Commission's code of accounts as interpreted by you to them. Is that right? A. Yes, sir.

Q. And while you do not assume responsibility for these figures in detail, you believe they have done that? A. That is correct.

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Q. And I suppose any examination about the detailed figures should be addressed to Mr. Pace or Mr. Dunn or whoever will appear later? A. Yes.

Q. Is the same statement true with respect to the text appearing in the first part of these exhibits? A. That is right. As far as the detailed figures are concerned, the men who prepared them are responsible. But so far as principles are concerned, I am responsible.

Q. You did review Schedule 1 on page 10 of this Exhibit No. 57, did you? A. Yes, sir; I reviewed it generally.

Q. You reviewed it generally? A. Yes.

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Q. I will ask you if it is not a fact, Mr. Smith, that the figure appearing in the lower right-hand corner at the bottom of the page, \$51,207,000, is not the figure that you find to be the original cost of this property? A. Yes, sir.

Q. And when I say that, Mr. Smith, we are always excluding the distribution system property? A. Yes, sir.

Q. I will ask you if it is not a fact that as developed on that page you started with a cost per books of the whole company of \$53,306,000, shown at the bottom of column "D," accept some reclassifications in that which have been made by the company, with the same total amount appearing in column g, and then made some adjustments up and down in accordance with these principles which you announced and arrived at an adjusted book cost of \$51,207,000. Isn't that so? A. Yes, sir.

Q. That figure developed there, as this exhibit shows in the title, is the investment in gas plant per books and as adjusted as of December 31, 1938, is it not? A. Yes, sir.

Q. It is an adjusted book cost? A. Yes.

Q. Isn't that so? A. That is right.

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Q. And I will ask you if the subsequent schedules that appear in Exhibit No. 57 and also in Exhibit No. 57-A are not in their entirety supporting details for this adjusted book cost of \$51,207,000? A. Yes; adjusted book cost, meaning that we think that is a proper cost of the property.

Q. It is a cost that you got from the books of the company and adjusted downward to the extent of about two million dollars to arrive at \$51,207,000? A. It is the cost that we got from auditing the company's books and records.

Q. But it is just what this exhibit calls it—the investment in gas plant per books? A. Yes, sir.

Q. That is the part of the original investment that was made at the time that was charged on the books of the company to plant account, isn't it? A. That is right.

Q. Now, I want to ask you another question. A. Just a minute, please. I had better explain that. There may be some difference of viewpoint here, and we ought to understand each other.

In all of our work we feel that we are compelled to start with book figures so that the company will know the

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derivation of every figure in the report. We presume the company knows what is in its books. By starting out with that figure and showing the adjustments we arrive at an adjusted figure.

We have done that in this case. We have shown the cost per books primarily for the convenience of the company in order that it may check thoroughly the stages through which we have gone to reach the final figure. I say the final figure represents what I think ought to appear in the books today as the adjusted book figure.

Q. Is there any doubt but that that figure of \$51,207,000 as developed there and as supported by all these schedules, Mr. Smith, is an adjusted book cost? A. If you are attaching any specific weight to that, then I have to make myself clear, that I think the figure is a figure of real substance. It is the only valid original cost figure that I know of.

Q. Will you tell me what it is. As it is developed and supported here it is an adjusted book cost, isn't it? A. I think you are attaching some special meaning to the schedule which I may have to deny. The final figure does not appear on the books, if that is what you mean.

Q. The \$53,306,000 appears on the books? A. Yes. That is the first figure, not the final figure.

Q. You adjust that downward by two million dollars

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or thereabouts and arrive at the adjusted book cost? A. We make adjustments to practically every account, and the effect of it happens to be an adjustment downward; and we get a final figure, which I say represents original cost under the Commission's Uniform System of Accounts.

Q. I did not ask you what you finally called this figure. I am only taking one step at a time. As this is developed here it is an adjusted book cost, as the exhibit shows, isn't it? A. I do not like to take—

Q. Can't you answer that yes or no? A. No; I cannot. It does not appear in the books, if that is what you mean. I don't understand what you mean by "adjusted book cost."

Q. I am only taking the expression that appears on this exhibit, which says "investment in plant account per books and as adjusted." You started with the plant account per books? A. Yes. And we say that that figure is wrong.

Q. You say that that figure is wrong by two million dollars? A. Yes.

Q. And you write it down two million dollars? A. We do not write it down. We make adjustments to show what the answer ought to be.

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Q. Is the effect of the adjustments to get a figure or a lower figure? A. A lower figure.

Q. And that is what you call here "as adjusted," and that means book cost as adjusted, doesn't it? A. It means more than that. It means it is the bona fide original cost figure.

Q. Does it mean that? A. In one sense, yes. In one sense we start off with a book figure and we make the necessary adjustments to it and arrive at another figure, and in one sense you could call that the book figures as adjusted. But the final figures have a lot of substance to them.

Q. Whether or not they have substance, the figures as developed by the Examiner's adjustment to the plant accounts as they appeared on the company's books, that is as the cost appeared on the company's books? A. That is merely the mechanics.

Q. Whether or not it is the mechanics, that is how it was arrived at, isn't it?

The Trial Examiner: As I understand it, that is the cost as arrived at by the application to the book costs of certain adjustments.

The Witness: Yes, sir.

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By Mr. Cockley:

Q. I want to refer you to the depreciation exhibit, which has not yet been identified, and ask you to turn to page 23. That is the exhibit that you are going to testify to next as to accounting principles, isn't it? A. I believe it is.

Q. I will ask you if the figure— A. I would just like to correct that slightly. It is more than accounting principles that I am going to testify to next.

Q. All right. I will accept that.

I call your attention to line 55 and note above it which says "net adjusted book cost December 31, 1938."

And opposite that, for the total plant, \$51,207,000? A. That is right.

Q. And on page 8 of that exhibit you make a statement to that effect, don't you? A. Yes; I think I do. In the beginning I thought we were together, but you talk about adjusted book cost, which makes me think that we are not.

We use that as a convenient term to show the figures which we have arrived at as a result of auditing the company's books. Actually the final figure is not on the company's books.

Q. Of course, Mr. Smith, we have been over that sev-

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eral times. It is perfectly obvious from this schedule that the figure on the company's books is \$53,306,000? A. That is correct.

Q. And you took some retirements which were not shown and made some other adjustments up and down and come out with the figure of \$51,207,000? A. That is correct.

Q. Which was an adjustment of the company's book figures, wasn't it? A. That is right.

Q. Now, I call your attention to schedule 2, page 13 of Exhibit No. 57. That says, does it not, "The capitalized cost per books and as adjusted"? A. Yes.

Q. Is that a different basis? A. No; it is not.

Q. That means the same thing, doesn't it? A. Yes.

Q. What it means is that it is part of the cost appearing on the company's books in capital account? A. I can not go along with you on the word "part."

Q. I will accept that. It is the dollars that the company capitalized in its plant account as the cost at the time, isn't it? A. Yes.

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Q. That means precisely the same thing, doesn't it? A. Yes.

Q. Does this expression that I see on schedule No. 1, "Investment in gas plant per books" mean the same thing? A. Yes.

Q. At another place on page 4 it says, "Total cost of gas plant in service per company's books." A. The same thing.

Q. That mean the same thing? A. Yes.

Q. And all of them refer to this \$51,207,000 that is developed and supported by all of these succeeding exhibits? A. When you use the language "per books," then you relate it to the books.

Q. We understand each other. If it says "related per books" that means the \$53,306,000. If it says "per books adjusted" it means the \$51,207,000, doesn't it? A. That is correct.

Q. And it is that figure that you also call on the face of this exhibit the original cost of gas plant? A. Yes, sir.

Q. And isn't it a fact, Mr. Smith, that there is not a table or figure anywhere in here that develops and supports that figure of \$51,207,000 except Schedule No. 1 which is the summary and the supporting sheets? A. They all sup-

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port it.

Q. And they support that figure which, in the first instance, is an adjusted book cost which you also say is original cost, in your view? A. Yes. I am sort of sorry we had "adjusted book cost" in view of the apparent interpretation that you place on it. To me it means the original cost.

Q. That is, to you, an original cost of an item of property is whatever the company has recorded at the time on its books? A. No, sir; only in accordance with sound accounting principles.

Q. Omitting accounting errors? A. That is correct.

Q. Omitting accounting errors, it is whatever the company charged on its books at the time cost? Is that right? A. If whatever it charged on the books then was proper, that follows.

Q. In company Exhibit No. 20 it purports to show an original cost of Hope Company's property at December 31, 1938 of close to 70 million dollars, in round figures. A. Yes, sir.

Q. And am I correct, Mr. Smith, that the principal difference between that statement and Exhibit No. 57 relates to only four or five general items? First, and by far the

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most important, is the direct material and labor costs of various kinds which the company in the past had charged

at the time to operating expenses and had not capitalized. A. I will have to deny it so far as direct material is concerned. I found no evidence on my visits to the company's offices of direct materials. But certainly the big difference represents labor costs in drilling wells. That is by far the largest item.

Q. Is it your statement that if material costs were charged at the time to operating expenses that would be an accounting error which you now restore? A. No; only if it were in connection with replacements which were generally charged to expense my answer is no.

I might say right now we think that Mr. Antonelli, who prepared the exhibit, did not have support for some of the material cost he shows there. But that will be taken up by another witness who is making a check of the matter.

Q. Then you are not going to say that if there are materials appearing in there that they should be there? A. No. You would have to go back to see whether they represented items which were properly charged to maintenance. In other words, if you set out to get all of the possible costs of plant you could get one figure; if you set out to get all of the possible items which could be charged to expense,

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you would get another figure; but the same items would be in both accounts.

Q. Let's get back to the main differences. You say one of the principal differences is the question of these direct material and labor costs insofar as they involve materials charged to capital account and which your men have not included in capital account? A. Yes.

Q. And the biggest item of that is well drilling cost? A. That is correct.

Q. That is about \$12,500,000? A. It is a large item.

Q. And that represents the cost of wells drilled by the Hope Company or by the company from whom the Hope Company purchased them that were at the time not capitalized? A. That is correct.

Q. The second item of any importance was these overheads to which you testified, which at that time were not capitalized? A. Yes, sir.

Q. And those are the two principal items, are they not?
A. I believe they are.

The Trial Examiner: At this time, gentlemen, we will
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take a short recess.

(Thereupon, a short recess was taken, after which the following occurred:)

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The Trial Examiner: You may proceed with the examination of the witness.

By Mr. Cockley:

Q. Mr. Smith, I direct your attention to schedule No. 1, appearing on page 10 of exhibit 57. I am correct, am I not, in saying that under account 332.1, producing gas well, well construction, you have in there in the adjusted column "J" a little over four million dollars to represent the drilling cost of all of Hope's wells that were in use on December 31, 1938? Is that right? A. Yes; that is right. That is the proper cost of well construction of the wells which were in existence on December 31, 1938.

Q. And Mr. Antonelli has in exhibit 20 an item of about approximately 12½ million dollars higher than that?

A. I believe that is correct.

Q. Will you tell me if it is not a fact that this item of four million dollars which you have in there represents the drilling cost of about 700 out of 3,300 wells, Mr. Smith?

A. I don't know.

Q. You can't answer that? A. I cannot.

Q. You do know that prior to 1924 or, rather, be-

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fore 1923, the Hope Company charged those drilling costs to expense and did not capitalize them? A. That is cor-

rect. I would estimate that there is a substantial number of wells which do not carry drilling costs in the plant accounts.

Q. And of the total difference between the figures in exhibit 20 and those in exhibit 57 of something over 18 million dollars, 12½ million dollars is in that one item, isn't it?

A. That is right.

Q. Now, Mr. Smith, I want to ask you one or two questions to get straight on this. Assuming that in 1920 the Hope Company drilled a producing gas well and the work order of the Hope Company shows that it properly expended \$10,000 for materials and \$10,000 for well drilling and other construction costs, on these assumptions and omitting any consideration of overheads for the present, are you agreed that the money actually paid by the company in drilling and equipping these wells was \$20,000? A. Yes; I think the money paid was \$20,000.

Q. There is no doubt about it? A. There is no doubt. But that does not necessarily mean that it is a valid cost at this date of that well.

Q. We will come to that later. There is no question but that the company originally paid \$20,000, and prop-

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erly paid \$20,000 for drilling and equipping that well? A. That is right.

Q. Can you tell me what was the cost of that well to the company? A. The cost of that well at that time might have been, in the assumed case, \$20,000. But still that does not shake my principle that the valid original cost is \$10,000.

Let me state it this way.

Q. I am not interested in whether it shakes your principles or not. I want to know if you can answer the question. Before any bookkeeping on that well was done the cost of that well to the Hope Company was \$20,000, was it? A. Yes. I think I can go that far.

Q. At that time was the original cost of that well \$20,000? A. Knowing nothing further, yes.

Q. And the actual legitimate cost was \$20,000? A. So far, yes.

Q. There is no doubt about that, is there? A. There is no real doubt any more than that the cost of paint on a building is an actual legitimate cost under the theory that you mention, until you get to the operating and account-

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ing stage and stage of producing revenues, and then we have a different situation.

Q. Then, what you say is that although the original amount of money paid for this is \$20,000 the actual cost and original cost and legitimate cost of that is \$20,000; if the company subsequently records only a part of that cost in its plant account, then the \$20,000 ceases to be the actual cost or the original cost? Is that correct, Mr. Smith? A. Oh, no. I think that again we are following abstractions and an isolated case. I think when you reach the operating stage and the company treats those things as expenses, they are bona fide expenses. The fact that you put a new inner tube into a tire gives you a new cost of that tire. You deal abstractly with it. The inner tube and tire must be taken. But we are getting away from realities when we do those things and we forget how businessmen run their businesses; you are following an abstraction.

Q. It is not my purpose to argue with you as to why you do this, because this cross examination will be unnecessarily prolonged. If you feel that you must make some explanation of your position and that it requires some defense, of course, you can volunteer those things. But I want a direct answer to my question as to how you treat

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these things. A. I have an obligation here to give a full answer, too, I believe.

Q. I don't want to preclude you from doing that, Mr. Smith.

Mr. Springer: I object to the characterization of the response of the witness by Mr. Cockley. He is certainly entitled to explain any answer.

Mr. Cockley: Mr. Smith is a very intelligent witness and a capable witness.

The Trial Examiner: Let's proceed with the examination of the witness.

By Mr. Cockley:

Q. Now, let's come to the bookkeeping, Mr. Smith. Suppose the company, in the case that we have assumed, capitalized on its books the whole of that \$20,000 for labor and materials and now carries that amount on its books; there would be no doubt in your mind that that would be the book cost and still be the original cost? A. That is correct. And we would not change it.

Q. And you would not change it? A. That is right.

Q. Am I correct in saying that if the whole of this substantially 12½ million dollars in the well construction accounts had been originally capitalized by the company

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on its books that there would be no question in your mind now but that it would be part of what you term the original cost? A. If we can go one step further and assume that that was the general practice of the industry, certainly we would have no difficulty.

Q. Assuming that it was an acceptable practice? A. Yes. We would have no difficulty. In other words, where there are alternative methods of accounting—and there are alternative methods—and you follow one system, I will accept that scheme, provided you apply it consistently. That is the only way, Mr. Cockley, that you are ever going to have any consistency in the determination of profits or income and determination of cost of plant.

Q. Am I further correct in saying that substantially the whole difference between exhibit 20 and the total

figure at which you arrive here in exhibit 57, if the company had at the time capitalized all of the items which it shows and which you disallowed—if I may use that expression—you would have now included them in original cost.

A. No; that is not quite so. We think that Mr. Antonelli in his study has resorted to some arbitrary estimates which we would not allow in any event, because we do not think

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the items would ever have appeared on the books; but to the extent the items would have appeared in the books, if you had followed one of the alternative methods of accounting, we would have accepted them.

Q. That is applicable to the \$19,000,000. That is a relatively minor item. A. It may be a substantial item. Someone else is going to testify to some of the amounts.

Q. If they had been actual expenditures at the time capitalized in the accounts, so that the question of estimates was out of it, you would have allowed a substantial figure? A. That is correct—assuming the entries would have conformed to accepted principles and practices.

Q. You don't mean to say that that has to be the universal practice in the industry? A. No.

Q. And you recognize, do you not, that some gas companies did capitalize these well drilling costs in the past and others did not? A. There were very few of them which capitalized them, so far as I know. We made diligent inquiry and found very few companies; and I don't think we found any that capitalized the items regularly, before about 1919, when the Pennsylvania Commission required cap-

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italization. Overwhelmingly natural gas companies charged those items to expense, and the Commission acted upon them as expense.

Q. That is your assumption, that they acted upon them? A. They had to.

Q. Suppose they did act upon them; what difference does it make? A. All the difference in the world. If you treat something as expense which is treated as expense by the industry and everybody in the industry recognizes it as an expense, and executive decisions are made on those assumptions, you can not go back and undo it or change the rates or the moneys which you collected from the customers, which were based upon the accounting for well drilling expense.

Q. Suppose you have \$10,000,000 of well drilling costs; suppose the condition of the well drilling accounts charge is 50 per cent; that would mean that you would have at least \$5,000,000 to set up in your rate base on your asset side, wouldn't it? A. I think so. The net amount—actually you set up twice that amount and have the reserve offset it. The net amount would be as you indicate.

Q. If you would figure it at a net basis you would take the depreciated condition of the dollars, whatever

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dollars you set up for it originally? A. That is correct.

Q. So it would be about \$5,000,000? A. That is correct.

Q. And if you allowed 12 per cent to cover both depletion and return on that, you would get in operating expenses about \$600,000, roughly, wouldn't you? A. Your return does not get into operating expenses.

Q. Well, it does for the purpose of a rate statement, doesn't it? A. The return is profit. It never gets into the expense. I don't want to have these differences on technical matters.

Q. You are talking as a technical accountant, aren't you? A. Yes.

Q. As a practical man, when you get over into operating expense which you consider for purposes of fixing rates, you get about \$600,000 on that, and you would get about \$600,000 expense and return. If on the other hand,

instead of having anything in capital account for these items you put over into operating expense about \$600,000, your rate would be precisely the same, wouldn't it? A. The rate?

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Q. Yes; the rate at which you arrived would be precisely the same? A. I don't see that.

Q. The price at which you sell your gas to cover this cost would be precisely the same? A. No; I don't think so.

Q. You think it makes a difference whether \$600,000 is the amount of expense or whether \$600,000 is the return; plus depreciation or depletion it would be expense? Is that your statement? A. I think it makes a big difference as to what you consider expense. I am having difficulty in following your questions. The questions are confusing to me.

Q. I do not mean them to be confusing. Of course, I am not an accountant, and I try to state it simply from the point of view of the effect on rates. Actually in either case you are going to get \$600,000 in some form or other? A. No; I don't think so. In the latter case you are going to try to get \$600,000; but in the first case if you do not have any expense, you are not trying to recover something for expenses which are not incurred.

Q. Then your statement is that there is a difference between those two situations? A. Yes; I think there is all of the difference in the world—

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Q. That is sufficient. A. —as to your action based upon what expenses are shown by your income statement.

Q. Let's come back to the bookkeeping. You have already stated, I think, that if in the case we assume, where a company had properly spent \$10,000 for equipment and \$10,000 for drilling a well if they had capitalized the whole on their books, you would now allow it as a part of the original cost? A. That is correct.

Q. Now, suppose that instead of doing that they capitalized only the material and charged the labor cost to expense, which Hope did prior to 1923; I understand your position to be that you would now consider the original cost of that well and the book cost to be the same, namely, \$10,000. A. There is no doubt about it. And I gave an illustration which I would like to repeat.

Q. You have answered the question. A. I want to give this illustration and drive home that point.

Q. Now, just a minute, Mr. Smith, please. I am going to object to these voluntary statements. I am merely trying to ascertain the position of the witness about these things. I submit it is not a matter subject to debate every time I ask a question.

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If I can not be protected in pursuing the cross examination in my own way to develop facts and not accounting theories, we will never end the cross examination. If Mr. Springer wants to ask further questions when I have finished, of course that is his right.

Mr. Springer: We are dealing with accounting principles. When Mr. Cockley opens the door on an accounting principle by a question, certainly the witness is entitled to explain his answer. That is all he is attempting to do.

The Trial Examiner: I think he is entitled to explain his answer, but it did not seem to me that that last answer required any particular explanation.

Mr. Springer: May we have the last question and answer read, Mr. Examiner?

(The question and answer were then read by the reporter.)

By Mr. Cockley:

Q. That is an illustration.

And Exhibit No. 57 is set up on that basis?

Mr. Springer: Just a minute, please. We have not had a ruling. I think the witness is entitled to explain his answer.

The Trial Examiner: I understood that; but I do not understand that there is any objection pending. There is nothing to be ruled upon.

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Mr. Springer: No, but he is not given an opportunity.

Mr. Cockley: I object to the witness going into and giving other illustrations.

The Trial Examiner: I think an explanation and an illustration are two entirely different things. If the witness wants to explain his answer, he may do so.

The Witness: What I wanted to do was to point out that in this very case we have a problem of that nature involved in the determination of income, that is delay rentals. In the course of time, I think delay rentals will amount to more than the cost of well drilling which has been charged to expense. And whatever ruling may ultimately be made in regard to the well drilling expenses ought to be made with the full realization that delay rentals are in the same category.

By Mr. Cockley:

Q. Have you finished? A. Yes.

Q. Did I correctly state your position in my last question? A. You did.

Q. Now, Mr. Smith, suppose a company, in accordance with the practice followed by other companies at the time, although not the universal practice or a practice of universal application, had charged both the cost of drilling and

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equipment to expense; is it your present position that both the book cost and the original cost of that well is zero?

A. No.

Q. On that theory, I suppose that would be an accounting error? A. That is correct.

Q. Let me understand you. Did you understand from my assumption that I assumed that that was the practice that was followed by many companies at the time? A. That would not have conformed to accepted principles of accounting. If you assume that it did conform to accepted principles of accounting, I would go along with you. But it did not conform to accepted principles of accounting.

Q. But if it had conformed to accepted principles of accounting, by which you mean a principle which was applied with some degree of generality— A. And which certified public accountants would certify to unhesitatingly. There is one qualification we must make. We are dealing solely with original costs. You will recall I testified if something were charged to expense in error and it were recovered from the rate payer, as a regulatory measure I doubt that you should recover that cost again, regardless

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of the fact that the error was made. That error would not bind me as far as getting original cost in the accounting sense is concerned.

Q. You did not make any investigation to determine whether any of these costs were recovered from the rate payer, did you? A. I had an idea they were all pretty generally recovered.

Q. That is based on your general assumption? A. No, on the assumption that this company has been very profitable during its existence.

Q. Am I right, Mr. Smith, that it is only true that you could be said to recover the things from a rate payer in the event that your rates would have been fixed at a higher rate if you had expensed these items than if you had capitalized them? Is that right? A. Yes. It goes one step further; by reason of the fact that you have treated this cost as expense and all others treated it as expense, naturally these costs were considered by management as expense in fixing rates.

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Q. Well, you didn't, in your investigation, go any further, did you, than to ascertain the fact that these drilling costs and some other items that you have eliminated, were recorded on the Hope Company's books as expenses? A. Oh, yes, we went farther than that. First of all, you left out one essential element. We determined that they were charged as expenses in accordance with sound principles and practices of accounting. As a matter of fact, we added to your plant accounts about \$1,400,000 which we felt had been charged off in error, and when you say that we have reduced the plant accounts some \$2,000,000, actually we have increased the plant accounts.

You yourself made an adjustment recording unrecorded retirements. When you make allowance for adjustments, we have increased the plant account by about \$1,400,000.

Q. What I meant was, Mr. Smith, you did not investigate the basis on which the company's rates had been fixed at any time in the past, or whether those rates would have been higher or lower if, in the past, it had capitalized well drilling costs instead of expenses, did you? A. We made a study of earnings with that purpose in mind.

Q. Well, general earnings, you mean, of the company? A. That is right.

Q. Well, I am asking you specifically if you made any

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study to determine where the company would have come out if it had capitalized these well drilling costs instead of expensing them, and whether it would have larger or smaller amounts? A. Yes, I made some study of that. I found that your company, for instance, claimed some of those items as expenses, the Clarksburg Company claimed them as expenses, at least, before the West Virginia Commission, and they were allowed as expenses. I found other commissions allowed them as expenses.

Q. Well, now, let's see. Our company claimed them in a case before the West Virginia Public Service Commission decided in 1921, wasn't it? A. I believe it was.

Q. And isn't it a fact that that rate case affected only 4 percent of the company's total volume of business? A. I don't know, that is of no consequence to me, however—

Q. (Interposing) Isn't it a further fact that it affected only the domestic consumers in West Virginia, whose rates here aren't under consideration? A. There is no difference in principle, Mr. Cockley—

Q. (Interposing) And isn't it a fact that in that same case, if the company had presented its evidence on the basis of a capitalization of drilling costs, with appropriate allowances for return and depletion on those costs, it would have had just as high a rate as was allowed it? Did you

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investigate that? A. I don't know what it would have been, if you had done something else. I do know you claimed them as expenses, and they were allowed as expenses, and others did the same thing.

I do know that the items we have mentioned were generally considered as expenses, at that time, and I repeat that I think regulatory commissions are responsible for the change.

Q. Now isn't it a fact that both times that the Ohio Commission, in 1932 and 1937, had the question of the Hope's East Ohio rates before it, that well drilling costs were capitalized and were not in any sense expensed?

Mr. Springer: I object to the testimony of Mr. Cockley. There isn't any evidence in this case of the practice in those other cases that he has presented.

Trial Examiner: Well, I understood this witness to testify that he had certain information on which he was basing his opinion, and that information consisted of these rate cases; is that correct?

The Witness: Yes, sir.

Mr. Springer: Well, in each one of Mr. Cockley's questions, he testifies to information that I doubt this witness would have the details of to determine the accuracy of—

Mr. Cockley: (Interposing) Well, the witness can perfectly well answer. I said, "isn't it a fact"—and if he

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doesn't know whether it is a fact, he can say so.

Mr. Springer: Make them assumptions, and I will go along with you.

Mr. Cockley: I don't make assumptions—

The Witness: (Interposing) What were the years, Mr. Cockley?

By Mr. Cockley:

Q. Well, in the 1932 Akron case, and the 1937 Cleveland case. A. Well, I think that is correct.

Mr. Reeder: Just a minute, Mr. Examiner. I want to move to strike that question and answer unless counsel will say, capitalized by whom. If he wants to say it was capitalized by anybody in particular, I want to ask for strict proof.

Mr. Cockley: Well, I have asked the question and it has been answered.

Mr. Reeder: I am pressing my motion to strike, because it is my recollection that in 1931, in the Cleveland case, the Ohio Commission didn't find a valuation of the Hope property, and I have heard Mr. Cockley say that over and over again—

Mr. Cockley: (Interposing) That is right, and if you had listened to my question, instead of objecting, you would have noted that I said in the 1932 Akron case, and in the 1937 Cleveland case that it was capitalized by the Commission; is that not the fact, Mr. Smith?

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The Witness: Mr. Cockley, I made inquiry from the Chief Accountant of the Public Service Commission of Ohio

regarding that matter a year or two ago, and the information he gives me corroborates your statement. That is the extent of my knowledge.

Trial Examiner: The objection is overruled.

Mr. Reeder: I withdraw it, I am sorry, I didn't hear it on account of the noise.

By Mr. Cockley:

Q. Now those cases before the Ohio Commission, to which I have just referred, are the only times within your knowledge, are they not, when the export rates of the Hope Company had been under consideration by any regulatory body until this present case? A. I have no knowledge of any other case.

Q. Mr. Smith, getting back to these well drilling costs and how they are charged on the books, as I understand your testimony, if there were two companies, each of which drilled a well at a cost of \$10,000 for construction and \$10,000 for equipment, and one company capitalized that all in its books and the other charged the well drilling to expense, and those companies came here before you to set up their accounts in accordance with the Uniform System of Accounts, one of them would have the well in at \$20,000, and the other would have it in at \$10,000, is that not so? A.

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That is true, but that is not unusual, Mr. Cockley. I have got to make myself clear on that—

Q. (Interposing) Do you think that answer needs some explanation? A. I think it does. There is an implication there that that would be a wrong situation, and it would be a perfectly valid situation. I think I ought to be given the opportunity to explain it.

Q. Well, if you think your position, standing alone, requires explanation, go ahead and explain it. A. Well, it does.

Q. I haven't asked you for an explanation, have I? A. No.

Q. You are volunteering it? A. Yes.

Trial Examiner: Have you completed your answer now, Mr. Smith?

The Witness: It is not the kind of answer that I would like to stand by itself. I think someone reading it may be misled.

Trial Examiner: Go ahead with your explanation.

Mr. Cockley: Go ahead and explain it.

The Witness: Today, when an electric utility replaces a cross-arm, some utilities treat that as a maintenance item, and some treat it as—

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Mr. Cockley: (Interposing) I object to accounting for electric utilities now. We are talking about a plain, simple question of drilling costs of natural gas wells.

Mr. Springer: We have had testimony that the principles of accounting are the same for all utilities.

Mr. Cockley: Well, we shouldn't have had.

Trial Examiner: Well, it seems to me—

Mr. Cockley: (Interposing) If the witness wants to explain this particular question, I have given him the opportunity to do it.

Trial Examiner: Could you use some item used in the gas industry instead of a cross-arm, for instance?

Mr. Cockley: Use this item.

The Witness: I will use a pipe. A company can take each unit of pipe as an item of property, and every time it replaces a length it can put it through its plant accounts; or it can charge it to expense. Over the course of years you are going to get a different answer for those two companies.

The point I make is that you will always have different answers for any two companies.

I know from my experience that any two utilities, any two department stores or businesses of any kind, with plants, will have different results when it comes to their plant costs applying to exactly the same items.

Mr. Cockley: I move we strike out the discussion about

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department stores; I think that is entirely too far afield.

Trial Examiner: We are discussing accounting principles, and I can't see that it makes any particular difference.

By Mr. Cockley:

Q. Well, it is a fact, isn't it, Mr. Smith, regardless of the reasons for it, that your position is, and your interpretation of the Uniform System of Accounts, and your method of determining original cost, is that you would freeze the accounting practices of the company, if they were not due to error, in their statement of plant accounts to be filed with this Commission? A. Absolutely, because I think their accounts have been kept correctly. Otherwise—

Q. (Interposing) And then if one company did it one way, and another company did it another way, and on some other feature the same thing was true, you would preserve in those plant accounts, for those various companies; the elections—if you want to call them that—which they had made between accounting practices, and all the variations in accounting practices that they had followed over the years, would you not? A. Assuming that the practices were in accordance with accepted principles of accounting.

Q. I am talking about nothing else. A. Absolutely; I most assuredly would insist upon it, and, Mr. Cockley, just

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imagine the position this Commission would be in if it didn't insist upon it.

Today your company is not following the same practice as all other natural gas companies. A few years from now this very company could come in and do the same thing over again. You have got to have a finality to this accounting sometime or other.

Q. Isn't it a fact that if the book costs of these companies, or of A Company were set up in accordance with its accounting practices—assuming always that there was no, what you call, accounting error—and B Company were set up in accordance with its accounting practices; and C Company were set up in accordance with its accounting practices—you would have no uniformity whatever in a statement of plant accounts for those three companies? A. Oh, yes, you would have a uniformity, but it wouldn't be absolute or a precise uniformity, and I don't think it is humanly possible to get precise uniformity. That is one of the real reasons why, once you account for something in accordance with a principle, that you ought to abide by it.

Q. Your interpretation of this Code of Accounts is,—this so-called Uniform System of Accounts,—that it was intended to require gas companies to preserve the accounting methods that they had pursued from the beginning of time, so long as there wasn't any accounting error? A.

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That is correct, and that has been my practice for 20 years.

Q. Well, you mean that that has been your interpretation? A. I mean that I have audited oil companies 20 years ago, which charged well drilling to expense, and I found it was a generally accepted practice and made no change in it. I still think I was absolutely right in doing so.

Q. Now, Mr. Smith, I want to ask you one other question. Suppose two companies, such as we have assumed, drilled two wells, or each drilled a well, with a total labor and material cost of \$20,000.

One of them put it in its plant account at \$10,000, and the other put it in at \$30,000. Now in each case \$10,000 of that would be the book cost, wouldn't it? A. Will you read that?

Q. Well, it is simply a case of two companies each spending \$20,000 to drill and equip a well,—one of them

charges it on its books at \$10,000, and the other at \$30,000.

A. I can't see why one would charge it at \$30,000?

Q. Well, they might have had a re-appraisal. A. Of course, that would be most unsound accounting.

Q. Well, do you mean to say that there is never inflation that gets into these costs at all? A. Not if I can help it, there won't be any inflation.

Q. Before you came into the picture? A. I think com-

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missions, since they started regulating accounting—and one of the first jobs a commission undertakes when it gets organized is to regulate accounting—generally have tried to keep inflation out of the accounts.

Q. If it will make you feel any better, suppose we say that one company sells their well, which cost it \$20,000—it is a utility, and it sells this well to another company for \$30,000. It would then be \$30,000 on the books of the accounting company, wouldn't it? A. There is no affiliation between the companies?

Q. No affiliation. A. That is correct.

Q. It is a good well, it is honestly worth \$30,000. A. O. K.

Q. Now you would set that up in your plant accounts as \$20,000, wouldn't you, and show the \$10,000 additional in account 107? A. No, sir, we would show it as \$30,000. An individual well is not an operating unit or system.

Q. Well, I assumed that it was. I want to take the assumption where it is an operating unit or system. A. Then you have got to get a business with customers attached, and a going business, and when you buy a going business, you can't tell how much you pay for the well. That is exactly why we have this original cost provision in

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the System of Accounts.

Q. All right. Suppose it is a case where one utility sells to another what you would call an operating unit, and

the purchasing utility puts it on its books at \$10,000 or \$100,000, whatever it has paid, above the cost of the selling utility? A. Yes, sir.

Q. Am I not right that you show, in your adjustment account—100.5—the amount that is paid over and above the cost to the selling utility, is that not so? A. That is correct.

Q. As shown by its books? A. That is correct.

Q. And if there were a re-appraisal which appeared on the accounts at any time, of a given item, you would show that in some plant adjustment account, would you not? A. If the appraisal figure on the books of the selling company were less than the cost to the purchaser, all the excess would go into account 100.5, but if the purchaser put on an appraisal figure higher than cost, then the excess would go into the account 107.

Q. And if that were done, the write-up, or the inflation, whatever it is, would not disappear from the company's accounts, would it? A. Oh, yes, it would disappear

—2798—

eventually, because both account 100.5 and account 107 provide that the amounts included therein "shall be disposed of as the Commission may approve or direct."

Q. But the information would be shown by the accountants for the benefit of the Commission, and the Commission would decide what ought to be done with it, would they not? A. Yes, the Company still having a right to petition the Commission for disposal in accordance with its wishes.

Q. But you believe that that is a proper method of accounting for the accountants to show the facts as to the amount of the inflation, if there is any, and that the Commission disposes of it as it sees fit? A. I will go one step farther,—I think if it is real inflation, the Commission ought to order it charged off at once.

Q. Regardless of what your views are as to what the Commission ought to do, you think it is an accountant's duty to show any overstatement of costs, isn't that so? A. I will go farther than that. I don't think the accountant has any right to sign his name to a statement containing inflation.

Q. Well, are we agreed as to what inflation means? Do you call it inflation if a company legitimately has paid more than the cost for the acquisition of property? A. No, sir.

—2799—

Q. Well, then, call it just an overstatement, and assume it is a mere overstatement? A. Just payment in excess of original cost.

Q. And the Commission will be advised by the accountants of all the facts, the amount of the increase over original cost, will it not, and the Commission could dispose of it as it saw fit? A. It would, indeed. We would go farther, we would try to show to what it relates, if we can possibly do it—

Q. (Interposing) And you believe it is an accountant's duty to bring out all those facts, and that that is one of the purposes of the new System of Accounts? A. That is right.

Q. But it is your interpretation of that System of Accounts that it applies only to overstatements and does not apply to any understatements of original cost, is that right? A. That is absolutely not so. Account 100.5 may contain a credit figure as well as a debit figure.

Q. But Account 107 would never show any difference on your interpretation, between the actual money paid by the company in the construction of property, and the book cost of that, would it? A. Well, it would show other things. Account 107 will show chiefly write-ups. It will also show unrecorded retirements when we find them, until the time comes when the entries are made correcting the

—2800—

adjustments. Sometimes we find that a discount on common stock is charged to the plant accounts. That discount does not belong in the plant accounts at all, and we show that in Account 107. Generally speaking, however, Account 107 is designed to include any amounts of inflation in the company's accounts.

Q. But not to show understatement? A. Not 107.

Q. Well, this says, "This account shall include the difference between the original cost, estimated if not known, and the book cost of gas plant, at the effective date of this System of Accounts, to the extent that such difference is not properly includable in Account 100.5, Gas Plant Acquisition Adjustments."

Now am I right that it is your construction of that, and you have so advised your examiners, that if the money actually paid by the company in the acquisition of property, actually paid by the company in the construction of property, is higher than the cost as recorded on its plant accounts, the difference shall not be shown in Account 107?

A. Again, we are assuming that the costs were accounted for in accordance with accepted principles?

Q. That is right. A. It does not go in 107.

Q. Well, "accepted principles" as we have discussed

—2801—

them before—I mean they followed the practice of other companies which was recognized as not an improper practice at the time? A. Well, if you speak of the well drilling costs in this case, we have a specific example; those well drilling costs should not be restated with the offsetting credit in Account 107.

Q. In other words, in that case you do not show the Commission the difference between the money actually paid for the construction of the property in the first instance, and the book cost? A. Mr. Cockley, we do not, we can never show the Commission pure cost in some abstract

fashion, forgetting how those costs have been accounted for. The Commission knows in this case that these items have been charged to expense, and if it had not been brought out already, we would make it clear to the Commission that they had been charged to the expense.

The items have been brought out, but in addition we intend to file a reconciliation statement showing exactly how those items have been accounted for. So in this case, at least, we will give the Commission all the information.

Q. Have you finished? A. Yes, sir.

Q. Mr. Smith, will you tell me what is theoretical and impracticable about going back to the original work orders

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of a company which show in detail the dollars it has spent for equipment and for construction costs of a well, and setting up those dollars as the amount of money actually paid for the construction of that property? A. Can't we eliminate the item of equipment from your question?

Q. Well, work orders show both, don't they? A. Yes, but only the costs of drilling were charged to expense.

Q. That is right. A. I would say that we would be absolutely wrong to take those drilling costs which were charged to expense and put them in a statement and say to the Commission, "This is our understanding of the original cost of this property." We have got to get down to realities and actualities in this thing. Things which are charged to expenses, and are properly expenses, I would never put into plant accounts.

Q. I object to the lecture, it isn't necessary. I am just asking you what is impracticable about determining the cost as shown by the work orders of the company, and the records of the company, and what is theoretical about it. A. Well, it is wrong. As far as being practical, you could do it or you can make a statement of any kind of figures you want, but it would be wrong to do it.

Q. Do you think it would be wrong to tell the Com-

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mission in a rate case how much money the company actually and properly spent in the construction of property now in service, whether it was charged to expense or capital account, or where it was charged, or whether it wasn't charged at all? A. No, Mr. Cockley, it would not be wrong to tell the Commission that. It would be wrong for us to bring an original cost statement in, in which were included those items and overheads previously charged to expense, and to say to the Commission, "We think this is the original cost," when we do not think that.

Q. Will you answer my question?

Mr. Reeder: I object unless the witness has had a chance to finish. I think he ought to have a chance to finish.

Trial Examiner: Go ahead and finish your answer.

The Witness: I think I have finished.

Mr. Cockley: I move to strike the answer as non-responsive.

Trial Examiner: I can't agree with you; it seems to me that the answer was responsive to the question. Read the question, please.

(The question was repeated by the reporter.)

By Mr. Cockley:

Q. Well, you agreed at the beginning, didn't you, Mr. Smith, with me that if a company had properly spent \$10,000 for well equipment, and \$10,000 for labor for constructing a single well, and if you didn't know anything

—2804—

about the bookkeeping, that the original cost of that well was \$20,000? A. At that time, yes.

Q. And you think that your interpretation of the uniform code of accounts is that you do not need to show all of these costs shown by the company's records to have been expended for the construction of the property, all of these drilling costs for the construction of some 2600 wells, not

a one of which appears in your exhibit? A. I don't think we ought to show them as part of the plant cost.

Q. Well, as I say, you think your code of accounts precludes you from doing that? A. I am sure of it.

Q. You are absolutely positive about it, are you? A. Yes, I am positive about it.

Q. And that has been your consistent interpretation of it, hasn't it? A. Yes, and it has been my practice in determining original cost.

Q. And that is based on paragraph 2(b) which you read this morning, isn't it? A. Yes, and much more than that. The auditors who audited the Standard Oil Company and the Hope Company,—Price, Waterhouse—didn't find any fault with the fact that these things were charged to expense, it was a sound principle.

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Q. Were those auditors determining original cost? A. They were certifying to financial statements which showed cost.

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Q. Were they testifying in any respect to the statement of cost contained in this definition of accounts, which means the amount of money actually paid for property or services, or the cash value at the time of the transaction of any consideration other than money? A. Yes, indeed, that is exactly what "cost" means, and they were required, under the rules of the Securities & Exchange Commission to conform to a general principle of that nature, or to qualify their statement.

Q. And when it applies to original cost it means that cost to the first company devoting the property to public service? A. Now you are talking about something else.

Q. I see; all right.

Now isn't it a fact, Mr. Smith, that, except for some general overheads charged after 1923, none of the expenditures made by the company in excess of book costs, and here

in question between us, were charged to expense in accordance with any uniform system of accounts in effect at the time? A. As far as I know that is true.

Q. Isn't it a further fact that they were not so charged in accordance with the discretion of the management as exercised under such uniform system of accounts? A. That is true. Mr. Cockley, upon reflection I would like to say that the items were charged to expense under the discretion of management, but not under a uniform system of

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accounts. —

Q. Well, I just read you the phrase as it appears in Instruction 2(B) which you read. A. That is right.

Q. Instruction 2(B) says:

“It is likewise intended that adjustments shall be made to record in gas plant accounts amounts previously charged to operating expenses in accordance with the uniform system of accounts in effect at the time or in accordance with the discretion of management as exercised under such uniform system of accounts.”

A. I want to make it clear too, that, as I testified this morning, that was put in to show that nothing in the system of accounts changed the general rule. We were afraid someone would construe the system of accounts as authority for doing that thing, and we wanted to show that that was not so.

Q. Isn't it true that there are other accountants and auditors, who had something to do with the determination of that final form of the system of accounts, who take a slightly different view of the purpose of this than you do?

A. I don't know about individual auditors, I know that the Committee on Statistics and Accounts of the National Association takes the same view that I have. Officially, its view is the same.

Q. Well, the Pennsylvania Commission hasn't inter-

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préted it that way, have they? A. As far as I know they have. In my last conversation with a representative of the Pennsylvania Commission he stated that he did not think that items previously charged to expense in accordance with the established principles of accounting at the time, should be restated.

Q. Well, that Committee interpretation that you just referred to is one that you had a pretty large hand in writing, isn't it? A. It was written originally by the chairman of the committee. I toned it down somewhat; it went farther than I wanted to go. I edited it and revised it, but it was written originally by the chairman of the committee.

Q. But it wasn't adopted at any time by the Association, was it? A. No, by the committee; the Association authorized the committee to send it out under its own name, the Executive Committee of the Association did that.

Q. They all do that, don't they? A. No, this was special. The Executive Committee of the Association at a formal meeting authorized the committee to send out that document.

Q. Well, they didn't approve it? A. The National Association doesn't approve any committee reports as such, as I understand it.

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Q. Well, they accepted it as the Committee filed it, and authorized them to send it out; isn't that what happened?

A. That is correct.

Q. And was there any effort made to have them adopt it? A. No, sir.

Q. None to your knowledge? A. None to my knowledge. I think it would be unusual to have them adopt a report of that kind.

Q. All right. I want to ask you just one or two more questions.

It is a fact, is it not, that in the company's income statements for the test years as set up here, it has not included any well drilling costs in those annual expenses? A. That is correct.

Q. It has not included any construction overheads in those annual expenses? A. Well, it has included overheads in expenses; it has, for some of the years, prorated some of the overheads to construction.

Q. Well, it has eliminated, has it not, the amount of overheads prorated to construction, from its annual statements? A. That is right.

Q. The expense statements? A. That is correct.

Q. And so far as the annual statement of the com-

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pany's income is concerned, under its rates, its operating statement, let us say, and the rate base it offers, it has been entirely consistent as between the two, has it not, so far as you now know? A. Yes, in a way it is consistent. Ours is consistent too, but the consistency is in different respects. Ours is consistent with past practice.

What you have done is restated the plant cost and restated your income of recent years to be on a consistent basis under the capitalization theory.

Along that line I intended to make a statement—I intended to make it later but I might make it now. I don't know whether you folks intend to continue your present method of capitalizing overheads or not, I don't think your method is a particularly good one, I don't like it at all—

Q. (Interposing): I am interested in this, but I submit that it has no part in this rate case. A. Yes, it does, a very vital part.

Q. All right, go ahead. A. If you intend to change that method of allocating overheads for the future—and I think you may want to change it—I think, before this case is over, you ought to say so, so that proper recognition can be given to the change. If you are not going to capitalize

these overheads in the future, the items now included in overheads should be considered as expenses in prognosticating the expenses of the future. It is only in simple justice to you that I make that statement. I think you will want to change it some time, to be frank with you.

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Q. I appreciate your comments, but you understand that we are not yet applying to the Commission for permission to set up our accounts in connection with the Code of Accounts, that we are just trying a rate case now. A. Well, I think your rate case and the way you keep your books, have got to be tied together. I think this business of keeping books in one way, and having extraneous figures or different figures in a rate case, is a horrible thing, and I can't condemn it too strongly.

Q. In other words, so far as you are concerned a rate case is just a question of accounting? A. No, I think you have an obligation to keep books right, and that those figures ought to have a real substantial meaning for rate case purposes.

Mr. Cockley: I move that that be stricken out; that certainly is not responsive to any question put to the witness.

Trial Examiner: Read the question, please.

(Whereupon the reporter read the pending question.)

Mr. Cockley: Now, I move to strike that answer as not responsive, and ask the witness to be directed to answer the question.

Trial Examiner: The motion is overruled. It seems to

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me that he has answered the question.

By Mr. Cockley:

Q. Well now, to get back to another question that I think is not controversial.

As a matter of fact, Mr. Smith, am I correct that there isn't very much difference between you, in your Exhibit 5, and the Company's Exhibit 20, as to the ultimate fact, namely, how much money was originally spent by the Company on these various accounts, how it was treated on the books as a matter of fact, and the whole question is whether or not it is proper to include it in a statement of original cost in a rate case; isn't that really it? A. That is substantially correct.

Q. And am I further correct—would you admit this—that if the company's plant accounts were now to be stated on the assumption that its books had always been kept in accordance with the present Uniform System of Accounts from the beginning, that Mr. Antonelli's statement of original cost would be substantially correct? A. There would be several million dollars of adjustments, but most of the \$17,000,000 adjustment we are talking about would be added to the plant accounts. As an offset to that we would naturally show a much higher depreciation reserve than we do show in one of our exhibits.

Q. Of course if we are talking about the original cost

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of the property, the depreciation would not have to be reflected in it. A. That is right.

Q. But aside from a couple of million dollars, you think perhaps his statement would be a correct statement of the original cost if the books had been kept in accordance with the present uniform system of accounts? A. That is correct. I still, for instance, have a good deal of qualification on overheads. I think the overheads were computed in a pretty ready manner, and getting over-all relationships which I don't have any faith in myself.

Q. Well, the net result of it might be that you might adjust that two or three million dollars downward—perhaps a million or less? A. It would be several million dollars, but the bulk of the \$17,000,000 would be put into plant accounts.

Q. You wouldn't throw all the overheads out, you would recognize the propriety of whatever overheads had been charged? A. I don't know how in the world you could go back and establish it; I would rather Mr. Antonelli have that burden, than that I have it.

Q. I think you have already stated that the company has been consistent in its operating statements and in its rate base statements? A. That is true. I made an explanation at the time and I want my explanation to cover

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my present answer.

Q. Mr. Smith, the only other question I want to ask you is this—do you claim that the figure of \$51,200,000 which you have arrived at, or which your staff has arrived at in Exhibit 57, is any evidence of the value of the Hope Company's plant devoted to public service at the present time? A. To the extent that valid cost to the company is an element of value, that is an element.

Q. Now is it evidence, on your theory, as to the value of all of the property devoted to public service on December 31, 1938, or only that part of the property that is shown in your exhibit? A. It is evidence, it is the real evidence of value of all the property except the distribution property.

Q. Of all the property? A. Yes, sir.

Q. Including the 2600 wells, the drilling costs of which are omitted? A. Absolutely.

Q. And including any physical property or other construction costs that have been omitted? A. As to physical property I don't think we have excluded anything except that which is normally charged to maintenance, and I certainly would exclude that.

Q. As a matter of fact you said you weren't familiar

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with the details of it and that I should ask someone else about it, but you have excluded some 9500 telephone poles with cross-arms, brackets and pins; and you have excluded

some 275 small buildings that were in there, and so on? A. I don't think we have, Mr. Cockley, but someone else can cover the details of that.

Q. But your view is that it is some evidence of the original cost and therefore some evidence of present value of all the property, and not merely of that part of the property that is included? A. That is right.

Q. And as of what date do you think this is evidence of value? A. As of December 31, 1938.

Q. You recognize, do you not, that you have in here costs incurred from the period 1898 down to 1938? A. That is correct.

Q. Forty years? A. That is correct.

Q. You recognize, do you not, that the price levels in that period have substantially changed? A. Yes, I recognize that; I recognize many other things also.

Q. And you recognize that the price level that prevailed prior to the first World War is about half the price

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level that has prevailed since that? A. No, I don't recognize that. I think we had better get a graph of prices if we are going into that. After the depression you know we went back I believe to the 1913 levels, so far as general prices are concerned.

Q. Do you really believe that as to the items that enter into the cost of a natural gas plant, do you think we went back to the 1913 levels in labor costs? A. I think that the gross cost, the original cost of these properties, was far higher than any conception of value as of 1938 on a strictly value basis, because the inexorable law operating is depreciation and depletion, there can be no question about that.

These properties, like all physical properties, are on the irresistible march to the junk heap. All physical property is in the same category. As they get older, depreciation occurs, and as you use up the gas, depletion occurs.

Those are the things, I think, which are of primary importance.

Q. Well, you started with this original cost and then you have taken all that off, haven't you? A. I think it ought to be taken off.

Q. Well, I understand— A. (Interposing): But were we talking about original cost only, in your question.

Q. Well, now, Mr. Smith, what I asked you was

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whether or not you believed that the labor prices prevailing in 1931 and 1932 were as low or lower, the ones entering into construction of a natural gas plant, than they were in 1913?

Mr. Springer: We don't have any evidence in this case on the trend, on the variation in labor prices, and if it weren't for the fact that this is in a field in which Mr. Smith has taken a great interest and a hobby, I would object; but I would be glad to have him answer it.

By Mr. Cockley:

Q. Just answer the one question? A. You can't answer the question categorically, Mr. Cockley, for this reason, that while the hourly rate of labor has gone up, the efficiency has improved, and I don't know whether the real wage, that is the real cost, has gone up or gone down. In some industries it has gone up and in some it has gone down. I don't know enough about the natural gas industry at this stage to say, other than that I have made some tests and I find that there has been a substantial increase in the labor efficiency in the case of the Hope Natural Gas Company.

Q. Is it your testimony that a laborer in West Virginia in 1932 or during the depression, or at any time since, could dig as many yards of dirt out of the ground as one in 1913? A. He could dig more. Let's change the date of 1913, take the period 1900 to 1913, and he would dig more in 1932.

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Mr. Cockley: That is all.

Trial Examiner: Does counsel for the City of Cleveland have any questions?

Mr. Reeder: No questions.

Trial Examiner: The City of Toledo?

Mr. Natlianson: No questions.

Trial Examiner: The Pennsylvania Commission?

Mr. Keenan: No questions.

Trial Examiner: The West Virginia Commission?

Mr. Goldsmith: No questions.

Trial Examiner: Is there any re-direct examination?

Mr. Springer: Yes.

RE-DIRECT EXAMINATION by Mr. Springer.

Q. If the management makes elections, Mr. Smith, under acceptable accounting principles, and expenses an item, should it later be permitted to capitalize that same item retroactively? A. No, sir.

Q. If such permission were granted, would there be any integrity to accounting? A. There would not be, in my opinion.

Q. If such permission were granted, could it not be possible that with every change of management there would be a retroactive revision of accounts?

Mr. Cockley: I object to that; there is no question

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here about changing accounting. I object to further questions based on the assumption that there is.

Mr. Springer: That happens to be the conflict here, on principles of accounting.

Mr. Cockley: No, it isn't, it is just your conception of it. We are not here asking for permission to change our accounts in any respect.

Mr. Springer: Only to capitalize \$17,000,000 that were not formerly capitalized by the election of management under acceptable principles of accounting.

Mr. Cockley: We are not asking to do any such thing. All we did in the exhibit was to show the dollars we spent in drilling the 2600 wells, in addition to the 700 that were on our books.

Trial Examiner: I think I understand the position of counsel. Counsel for the company, of course, claims it is not in issue; and counsel for the Federal Power Commission claims that it is. Well, that makes it in issue, as far as I am concerned. The objection is overruled.

Mr. Springer: Will you please read the question?

(Whereupon the pending question was read by the reporter.)

The Witness: That would be perfectly possible.

By Mr. Springer:

Q. And would it be proper? A. It would not be proper.

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Q. Mr. Smith, is there a relation between the plant accounts and the income statement? A. There is a direct relationship.

Q. They are inseparable, aren't they? A. They are indeed.

Q. And you would get a distorted picture if you looked at only plant accounts without also considering the related income statement, that is, the treatment of income and expense, isn't that so? A. That is correct.

Q. If the company were permitted to capitalize retroactively items which it had formerly expensed, in a rate case, would not multiple charges against the consumers result?

Mr. Cockley: I object to that; it is just going over the same old ground again.

Mr. Springer: This is new ground.

Mr. Cockley: Oh, no, it isn't.

Trial Examiner: Why wasn't it gone into to begin with, on direct examination?

Mr. Springer: Mr. Cockley opened this up on cross examination, Mr. Examiner.

Mr. Cockley: No, I didn't. [REDACTED] volunteered a statement.

Mr. Springer: It will only take me two more questions, Mr. Examiner.

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Mr. Cockley: Well, the question is just improper, whether it takes two more questions only, or not.

Trial Examiner: The objection is overruled; proceed.

The Witness: It would be purely a question of fact. If they are allowed as expenses and then put in plant and allowed again, of course there is duplication.

By Mr. Springer:

Q. There would be a return on the former items that were expensed if they were put into plant, isn't that so?

A. Obviously if they are allowed both places, there is duplication.

Q. And in addition to that return on a capitalized former expense item, there would be an additional expense for depreciation, would there not? A. That is correct.

Q. Which makes three times the consumer pays for—

Mr. Cockley (Interposing): I object to that.

By Mr. Springer:

Q. In your definition of original cost, in your discussion of the principles of accounting, I believe you concluded that your idea of original cost is the same for accounting and for rate making purposes? A. That is correct.

Mr. Springer: That is all.

Trial Examiner: Is there any re-cross examination?

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Mr. Cockley: Yes.

RE-CROSS EXAMINATION by Mr. Cockley.

Q. When you were answering Mr. Springer you said that if items were allowed as operating expense, they shouldn't be subsequently capitalized. Do you mean "allowed" as a matter of making rates, or as a matter of bookkeeping for the company? A. I tried to make it clear that if they were allowed both places there would be duplication. If they are not allowed, regardless of how they are accounted for, there may not be duplication.

Q. You mean allowed in fixing rates? A. Yes, sir. I mean to say that if you allowed an item as expense in fixing rates, and later that is allowed as capital plant, on which a return and depreciation is allowed, there is duplication, it is obvious duplication.

Q. And you are confining your answer now to fixing rates? A. Yes, sir.

Mr. Cockley: That is all.

RE-DIRECT EXAMINATION by Mr. Springer.

Q. Well, you aren't confining your answer to fixing rates by a regulatory body, are you; I mean the management itself fixes rates, and has many times, before regulation—

Mr. Cockley (Interposing): I object to this argument

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with the witness; he isn't asking a question.

The Witness: I think that is the substance of my testimony this morning.

Mr. Cockley: After we have examined today's transcript we may have a few more questions of Mr. Smith. I don't know, but I would like to reserve that right if it proves necessary.

Trial Examiner: I presume there is no objection to that, is there?

Mr. Springer: No.

Trial Examiner: The hearing is recessed, to reconvene tomorrow morning at 9:30 in the Commission's Hearing Room on the second floor of 1757 K Street, N. W., Washington, D. C.

(Whereupon, at 4:45 p. m., the hearing was recessed until 10 a. m., Wednesday, April 23, 1941.)

10. TESTIMONY OF COMMISSION WITNESS JOHN W. PACE AS TO DETERMINATION OF ADJUSTED BOOK COST, WEDNESDAY, APRIL 23, 1941, RECORD PAGES 2861-2863, 2871-2873, 2877-2893, 2895-2899, 2903-2911, 2941-2949, 2953-2957, 2964, 2972-2974.

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Whereupon, JOHN W. PACE, called as a witness on behalf of the Commission, being duly sworn was examined and testified as follows:

DIRECT EXAMINATION by Mr. Springer.

Q. Mr. Pace, will you state your full name and position, please? A. John W. Pace, senior examiner of accounts for the Federal Power Commission.

Q. Will you state your qualifications, please, starting with your education? A. I attended grade and high school in Terrell, Texas.

I attended the Metropolitan Business College in Dallas, Texas, where I completed a one-year accounting course.

I also attended a private school in Dallas, Texas, conducted by a chartered accountant, where I studied general accounting for five years.

My experience, in general, has been as follows:

In 1918 I was employed by the Texas Power and Light Company in the Accounting Department where my duties involved handling of cash receipts, consumers' ledgers and material and supplies records.

For the period 1919 to 1923 I was employed by the

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Middle West Utilities Company. I was employed first as assistant treasurer and district auditor of all the southwestern properties belonging to this company. Later, I was advanced to treasurer and general auditor. The duties in this position were supervision of all accounting and re-

sponsibility for all financial matters. The properties under my supervision consisted of 20 corporations, including gas, light, water, traction and ice companies.

In 1924 I was employed for a short time by H. M. Byllesby Engineering Corporation. My duties with this company were auditing gas properties located in Oklahoma and Arkansas.

From 1925 to 1935 I conducted my own commission business in Dallas, Texas. This business consisted principally of appraisals of city property, financing homes, and buying and selling of oil properties located in the East Texas oil fields.

From 1936 to 1941 I have been employed by the Federal Power Commission as an Examiner of Accounts.

Q. Mr. Pace, will you state briefly your responsibility in the preparation of the two-volume original cost work marked for identification as Exhibits 57 and 57-A? A. Well, I was directly in charge of all the detailed work in connection with assembling the figures in this report.

Q. Now referring to the written statements in this two-volume work, and the supporting schedules, if appropriate questions were presented to you, would your answers be in

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essence, and your direct testimony, that which is contained in the two-volume work? A. Yes, they would.

Mr. Springer: Mr. Examiner, I offer in evidence at this time the exhibits marked for identification as 57 and 57-A, being the original cost of gas plant as at December 31, 1938, for the Hope Natural Gas Company.

Mr. Cockley: I want to object to these exhibits as not being a statement of the original cost at all. If they are offered for that purpose, I object to them. If they are offered as an adjusted book cost, for whatever relevancy that would have, I will not object; but as an offer of original cost I object to them.

It has been proved beyond any controversy, by the admissions of the witness the other day, that the figure in here is an adjusted book cost.

Mr. Springer: It was also proved by Mr. Smith, on examination of his definition of original cost and the principles of accounting that applied in this case, that this two-volume work is precisely offered as the original cost of the Hope Company's properties as of December 31, 1938, and that is the purpose for which I offer it at this time.

Trial Examiner: Well, it seems to me that that is something which might well be taken up in the briefs. The objection is overruled.

CROSS EXAMINATION by Mr. Cockley.

—2871—

Q. Now your schedule 1 on page 10 is the final summation of all these new plant accounts you are going to set up for the Hope Company, is that right? A. Yes, sir.

Q. Which are taken into the original cost? A. Yes, sir.

Q. I don't know that it is necessary to go over it again because Mr. Smith was over it yesterday, but isn't it a fact that what you did was to start with these various accounts as re-stated, start with the cost shown on the company's books, in column (d), and recognize the reclassification insofar as it was proper by the company, in columns (e) and (f), and arrive at a cost per books that merely reclassified these accounts? A. That was our starting point, yes.

Q. And the dollars in the reclassified book costs are just the same as the dollars in the book costs as set up originally? A. Yes, sir.

Q. That was just transferred from one account to another, all of them being shown on your page here, is that not so? A. Yes, sir.

—2872—

Q. And then you made adjustments both up and down in those, for various reasons, and arrived at a figure that is an adjustment of that book cost, shown in column (d) is that not so? A. In one sense, yes. However, we of course know that that is not on the company's books, it is what we have determined as being the actual cost.

Q. Well, now, Mr. Pace, did you listen carefully to my question? I did not suggest, did I, that the \$51,207,000 is on the company's books. There isn't any doubt, is there, but that what is recorded on the company's books at the present time is \$53,306,000—odd, is that not so? A. That is correct.

Q. And your \$51,000,000 is an adjustment that you have made of that figure of \$53,300,000, is it not?

Mr. Springer: Would it be more understandable to him if you said net adjustment?

Mr. Cockley: I don't know, if he wants to say it was a net adjustment—

Mr. Springer: (Interposing) Of course there were additions and deductions in the adjustment.

Mr. Cockley: Of course.

The Witness: And that is the result of the net adjustments to those book figures.

—2873—

By Mr. Cockley:

Q. And am I further correct that all the subsequent schedules appearing in the rest of volume 1, and all that appear in volume 2, are merely supporting details for that figure? A. Yes, sir.

Q. And do you agree—I assume you do—with the statement made by Mr. Smith yesterday, that where you have used in here, investment in gas plant “per books,” and at other places have used “book cost” or, as you do on schedule 2, “capitalized cost per books,” that those

all mean the same thing and in total refer to the item of \$53,307,000? A. Yes, sir, that is correct.

Q. And where you use those same expressions and say "as adjusted," they mean the total of \$51,207,000?

A. That is correct.

—2877—

Q. Well, regardless of the reasons, the fact is that you didn't make any investigation of the work orders, or any

—2878—

analysis of the work orders and the vouchers and the records of the prior utility, where they were available, to try to find out how much money the company drilling those wells had actually spent for drilling them, is that not so?

A. No, sir, we didn't try to determine how much money they spent in drilling wells.

Q. And you did not at any time attempt to make any estimates of the amount they originally spent for drilling those wells, did you? A. No, sir, we don't go by estimates.

Q. What? A. We don't go by estimates.

Q. And you didn't go by estimates at any time in this so-called original cost study, did you? A. Not by estimates, no, sir.

Q. And you threw out every estimate that had been made of original cost where it couldn't be accurately determined from an analysis of vouchers and work orders and other records, is that not so? A. I don't think that we threw them all out, in the case of the prior utility acquisitions.

Q. Will you prepare for me a list of them that you didn't throw out? A. Well, I think most of the amounts that are recorded as prior utility costs were arrived at by estimates.

—2879—

Q. What is that? A. I think most of the amounts that are recorded as prior utility acquisitions, represent

estimates, and were estimated at the time the acquisition was made, according to the inventories that are attached to those vouchers.

Q. Were estimated at the time the acquisition was made? A. Yes.

Q. You mean 50 per cent of them or more, is that what you mean by "most of them"? A. Well, I would say more than that, because the vouchers that I examined all had an inventory attached to them, and from the notations shown thereon would indicate that all of them were estimated with the exception, maybe, of the Clarksburg Light & Heat.

Q. You are talking now about the vouchers of the Hope Company, are you not? A. Yes, sir.

Q. My point is that you did not analyze or attempt to analyze any of the vouchers, work orders or other records or data, of the utility that first devoted that property to public service, and from whom Hope purchased it as utility property, is that not so? A. We made an attempt to examine some of their records, but there were so few of them submitted to us that it was useless, so we gave up.

—2880—

Q. Well now, Mr. Pace, do you say that there wasn't submitted to you every record which the Hope Company had or could obtain, in its possession; and if there were records that they had or could obtain, and didn't submit them, will you tell me what they were? A. I didn't say that, I think they submitted to us all they had, but I don't think they ever had them.

Q. And in the absence of those vouchers of the company first devoting the property to public service, did you make any estimates at all as to the drilling costs or other costs? A. No, sir.

Q. Or as to the amount of money properly spent by those companies in acquiring that utility property, or in constructing it? A. No, sir, we accepted the company's estimate.

Q. Well, what you mean is that you accepted the figures that appeared on the Hope Company's books or records? A. Yes, sir.

Q. And in the case of well construction that was zero because they had no estimate? A. That is right.

Q. In the original records? A. That is right.

Q. And what I am asking you is that you did not at any time attempt to go back and determine the cost to the

—2881—

utility first devoting that property to public service, did you? A. No, sir. There is one exception there, that they did show well drilling cost in the acquisitions, and I think that was in the amount of approximately \$160,000 which the Hope Company expensed at the time of acquisition. They did not put it in plant accounts.

Q. What did you do with it? A. We left it right there.

Q. By "leaving it right there," you mean you didn't put it in plant accounts either? A. No, sir, we left it right there in expense.

Q. Let me see if I understand what you have just said. You have said that although the plant accounts of the utility that first devoted that property to public service showed the drilling expense for those wells acquired by Hope of \$160,000, when Hope acquired it, it charged that to expense and you did not restore it—do I misunderstand you or is that what you said? A. I don't believe I said that the vendor reflected that in their plant accounts. That amount was included in the purchase price of that property. Now whether it was reflected on the vendor's books in plant accounts or expense accounts, I don't know, but it was considered in the purchase of the property and was charged to expense in the Hope books.

Q. Well, the truth is that you didn't investigate the

—2882—

plant accounts of the company first devoting that to public service, to see whether to charge it to expense or whether to capitalize it, did you? A. I don't think those books were available.

Q. And in the absence of their availability, you made no estimate of it? A. No, sir.

Q. And your statement is, as I understand it, that Hope paid \$160,000 on account of those drilling costs? A. In one particular case they did.

Q. In one particular case? A. Yes, sir.

Q. But that you did not include it in your statement of original cost because Hope subsequently charged that to operating expense instead of to capital account, is that right? A. Yes, sir, that is correct.

Q. You did not, in any case, consider it necessary to apply Instruction 2(C) of the Code of Accounts which you were following which states:

"Detailed gas plant accounts 301 to 390 inclusive shall be stated on the basis of cost to the utility of plant constructed by it and the original cost estimated if not known, of plant acquired as an operating unit or system."

Is that right? A. We considered that instruction, of

—2883—

course, in determining our cost, but I don't believe that the instruction ever intended the accountants to do any estimating.

Q. Well, your view is that that contemplated that the engineers would make the estimate and furnish it to the accountants, is that it? A. No, my understanding is that it is up to the company to make the estimate and submit it to us.

Q. Well, isn't that exactly what Mr. Antonelli did? A. Well, of course in that one particular case we are discussing, I don't think he made any estimate there, I don't think it was necessary.

Q. Well, as a matter of fact, didn't he make estimates wherever he couldn't, from original records, analysis of original records and vouchers, find the actual dollars paid; didn't he make some estimates, where necessary, of drilling costs? A. Yes, sir.

Q. Didn't he make some estimates of overhead? A. Yes, sir.

Q. Aren't they all contained in Exhibit 20? A. Yes, sir.

Q. And wasn't that submitted to you and before you when you made this? A. Yes, sir.

Q. But you didn't either accept any of those estimates or check them, or use them in any way, did you? A. No,

—2884—

sir.

Q. Did your engineers in the Commission ever furnish you with an estimate of any kind, of any of those items?

A. They didn't supply us with an estimate of those items, no, sir.

Q. Well, of any items that entered into this \$51,200,000 you arrived at? A. I don't believe that there is anything in that, which represents estimates, no, sir.

Q. Did you ever request any of your engineers to give you an estimate of drilling costs or overheads, or any other items, the exact amount paid for which you could not determine from an analysis of the records of the company constructing that property? A. I don't believe that we did.

Q. Well, you know you didn't, don't you? A. Not that I remember of, at the present time; I don't think that we did, no, sir.

Q. Now as a matter of fact, as to these well accounts, Mr. Antonelli had determined the amount of dollars actually expended by the company first devoting this to public service, whether it was the Hope Company or a predecessor company, in the great bulk of those cases, had he not, and estimated it only in a relatively small number, compared to the entire item? A. Yes, sir.

—2885—

Q. Now let's come to the wells drilled by the Hope Company itself, and distinguished from those it purchased.

—2886—

To shorten this, isn't it a fact that as to all money spent by the Hope Company prior to 1923, which was not capitalized in its plant accounts, and represented the construction cost of wells drilled by it, you did not include any of that in your statement of original cost, did you? A. No, sir, we did not.

Q. It is not included in the \$51,200,000? A. No, sir.

Q. Did you make any check of Mr. Antonelli's statement of original cost of drilling Hope's own wells, to see whether or not his statement of original cost was correct or not, his statement of the money spent in drilling those wells was correct or not? A. We checked a large part of it. I don't know whether we checked every bit of the well drilling costs or not, but we did check quite a number of wells.

Q. And you found his costs, as stated, to be correct in those cases? A. Yes, I think in most all cases it was exact.

Q. He had, for practically all of the Hope's own drilled wells, the original work order, did he not? A. Yes, sir.

Q. And the vouchers? A. Yes, sir.

Q. Which would show exactly how much money was

—2887—

spent for well equipment and how much for well drilling, and what it was, and all about it; didn't he? A. He had the records that were in support of the charges on the various work orders. Just how far in detail they went, I couldn't say from memory.

Q. So that you knew that the company had spent the dollars that he showed, when they originally drilled the wells of the Hope Company, did you not? A. Yes, I think that is right.

Q. Now in this Account 332.1, will you tell me how many wells were included in the inventory, including both those purchased by Hope Company from any source, and those drilled by the Hope Company? A. The total number of wells?

Q. Yes. A. At December 31, 1938?

Q. Yes. A. I think it was approximately 3300 or 3400.

Q. Approximately 3300, wasn't it? A. Something like that, yes, sir, approximately.

Q. And those wells were all in use, or were connected with the system on December 31, 1938, and were accepted in the inventories of the property, were they not? A. Yes, sir.

Q. Now in your Account 332.2, which is right below,

—2888—

the well equipment account, will you tell me how many wells are included in that account? A. The equipment?

Q. The equipment account—that includes 3300, all of them, doesn't it? A. That includes all the wells in service.

Q. Will you tell me how many wells are included in the item right above it of 4,000,000-odd dollars, which you set up for the well construction account? A. I believe it was 772.

Q. Less than 800 of the 3300 wells you show in your so-called original cost the amount spent for drilling them, is that right? A. Yes, sir.

Q. Stated the other way, there are nearly 2600 wells for which your figure contains not a dollar for drilling costs, isn't that a fact? A. Yes, sir, that is correct.

Q. And for all of the 2600 wells, or approximately that, that were omitted, that were drilled by the Hope Company, at least, you had available a perfectly accurate record of the amount of dollars the company had spent in drilling or constructing those wells, did you not? A. Yes, I think so. We didn't examine all of them.

Q. And if you had been instructed to include in your

—2889—

figures the actual amount of money that the company first devoting this property to public service had spent in drilling and constructing these wells, you would have had, in your adjusted figure on the right-hand column (J), page 10, substantially the same amount as Mr. Antonelli, would you not?

Mr. Springer: I object. His instructions didn't encompass that, as has been testified to by Mr. Smith and by himself, and why put a hypothetical question to this witness? He hasn't testified to the accounting principles. Mr. Smith is the expert on accounting principles.

Mr. Cockley: Well, of course this question goes to the accuracy of the figures. I want to see if there is any dispute about Mr. Antonelli's figures. This is the man that I have understood is responsible for the figures and who has checked them, and knows whether they are right. What I have said to him is, if he were setting it up on the same theory as Mr. Antonelli, if he wouldn't have had substantially the same figure that Mr. Antonelli had.

It is a perfectly proper question.

Trial Examiner: The objection is overruled.

The Witness: Please read the question.

(The question was read by the reporter.)

By Mr. Cockley:

Q. Well, perhaps that isn't a fair way to ask it. I will change it to read this way:

—2890—

If you had been instructed to do what I have said in that question, you would have had, for Account 332.1, substantially the same figure as he had, would you not? A. Yes, sir, our figures would probably have been the same. I think his figures are correct.

Q. I mean, you don't make much question about the accuracy of his figures? A. No, sir, I don't.

Q. The whole dispute is the question of whether or not they are a part of the original cost or whether they are not, is that right? A. Yes, sir.

Q. Thank you.

Now in various of these accounts—I will not take you through them in detail—but there were overheads that Mr. Antonelli, or for which Mr. Antonelli did not have original records, and for which he made estimates, is that not so? A. Yes, sir.

Q. And he has included them in his figures, and you have not included them in any of yours? A. That is correct.

Q. Now I suppose there would be no dispute that a proper amount of overheads is necessary and is permissible to be added to the direct cost of materials and labor, and capitalized in the account, is that not so? A. Well, our

—2891—

system of accounts provides for a reasonable amount to be attached to cost so long as it is in accordance with good accounting.

Q. Did you make any estimates at all of overheads to be applied, properly applied, to these various accounts? A. No, sir.

Q. So that you didn't form any opinion, one way or the other, as to whether Mr. Antonelli's overheads were reasonable or not, his estimate of overheads were reasonable or not? A. Well, we did form some opinion in that respect inasmuch as we wouldn't agree with certain amounts that he excluded from his estimates.

Q. You wouldn't agree to certain amounts that he excluded from his estimates? A. Yes, in arriving at his ratios. I mean, certain amounts that he has excluded from his total expense in order to arrive at the ratio of the amount to be charged to construction.

Q. Well, just where was your difference with him, what did you investigate and what use did you make of overheads? A. Well, we didn't make any estimates; we merely made a check of what he shows here in his Exhibit 20, and in that respect we couldn't agree with him in some of his figures.

Q. Well, what do you think he excluded that he should

—2892—

not have excluded? A. Well, in arriving at his ratio between the operating expense and construction cost, he excluded from his operating expense gas purchased for resale; gas used for compressor station operations; depreciation and amortization items; and taxes other than payroll taxes—these items were excluded from the total expenditures that the overheads were applicable to, which states that they were applicable to all operating expense with the following exceptions that I have just read, plus the total gross additions to investment.

I don't know that we would agree altogether with that basis of distribution of those costs.

Q. Well, what basis would you take? A. Well, it seems to me that part of the overhead costs should apply to the items that he has excluded. There probably wouldn't be a great deal of difference, but then there would be some.

Q. Well, how much difference would it make in the percentage; what percentage did he arrive at finally? A. Well, this page is full of them, I don't know which one you have reference to.

Q. Well, what was the over-all picture, or which one do you think ought to be changed? A. I don't believe there is an over-all percentage shown on this page, it is broken down between general overheads, purchasing, land,

—2893—

payroll, and so forth, and each one of them shows individual ratios.

Q. And which one would you change? A. Well, it would probably, to a certain extent, change all of them. I don't know just how much it would change them, because we didn't figure that.

Q. That is the only criticism you have to offer of his estimates of the amounts to be excluded from current expenses for construction overheads, is that right? A. Well, that is the only criticism I have as to his estimate as he made it.

Q. And would the amount you exclude be more or less than he excluded? Are you able to say? A. It would be less, I think.

Q. That is, you think more ought to be included in operating expenses, and less capitalized, is that it? A. It would have that effect, yes, sir.

Q. But you can't say how much less, if any? A. No, I couldn't give you figures.

Q. And on this whole picture, it would make almost no difference at all, would it? A. Well, I don't know just to what extent it would go. I should say that the gas purchase would probably amount to a considerable difference, if it was included.

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—2895—

Q. Well, you think, do you, that \$8,000,000 spent for the purchase of gas under these permanent contracts, that every one of those dollars requires as much supervision as it does for dollars spent for labor, for example, in the course of a year? A. Well, I don't know that it would require altogether as much supervision.

Q. Well, you know it wouldn't, don't you? A. I don't believe it would, no, sir, to be frank.

Q. It would be an infinitesimal fraction as much, would it not? A. It probably would, yes, sir.

Q. And if you made your complete adjustments that you are talking about, you wouldn't substantially change

Mr. Antonelli's figure, isn't that a fact, his percentages?

A. Well, I couldn't say, I made no attempt—

Trial Examiner: (Interposing) I am not sure that I understand the relationship between the direct testimony of this witness and Mr. Antonelli's figures. Are these figures in columns (e) and (f), headed "reclassification by company," supposed to be Mr. Antonelli's reclassifications and

—2896—

adjustments?

The Witness: Yes, sir, in columns (e) and (f), those figures were determined by Mr. Antonelli.

Trial Examiner: But your adjustments were not based on Mr. Antonelli's adjustments, were they, or on the figures he got after those adjustments?

The Witness: Well, Mr. Antonelli's figures, shown in columns (e) and (f), merely represent a reclassification of the number of dollars that were shown on the books—

Trial Examiner: (Interposing) What I am trying to get at is whether or not you analyzed all Mr. Antonelli's figures to determine whether they were correct or not, and just what bearing that would have on your adjustments?

The Witness: Yes, sir, we examined every one of Mr. Antonelli's adjustments in detail.

Trial Examiner: And you took the results of that investigation into account in making your adjustments?

The Witness: Yes, sir.

By Mr. Cockley:

Q. Well, as a matter of fact, what you did here is merely to accept his adjustments insofar as you approved them, and you eliminated all others, isn't that right? A. Yes, sir; we did examine them, though.

Q. Yes. And you checked and spot-checked them very

—2897—

carefully, didn't you? A. Very carefully.

Q. But your exhibit nowhere shows the items that are included in Mr. Antonelli's adjustments, which you have not accepted, in any way,—or as I would put it, ignored; isn't that right? A. No, sir, it doesn't show them at all.

Q. You have taken merely the part of it that you were willing to accept? A. Yes, sir.

Q. Well, so far as these overheads are concerned, the reason you rejected them wasn't that they were too high, was it, or too low? A. No, sir, it was not.

Q. If you had agreed with them right to the penny, you still wouldn't have added them to your figures in any way, would you? A. No, sir.

Q. Now I want to hand you, Mr. Pace, a paper that I am going to have marked Exhibit No. 59 for identification.

Trial Examiner: It may be so marked.

(The document referred to was marked Exhibit No. 59 for identification.)

By Mr. Cockley:

Q. Now, Mr. Pace, this paper which I have had marked for identification as Exhibit No. 59, attempts to set up on

—2898—

statement 1 here, the original cost as shown in Exhibit 20 of Mr. Antonelli, in the first column of figures; and your adjusted book cost as shown in Exhibit 57-A, and I direct your attention there to Account 332.1, which is the account we have just been discussing, is it not? A. Yes, sir.

Q. And the difference shown of \$13,694,000, is in part the drilling cost of wells drilled by the Hope Company, and in part the cost of drilling wells of other utilities purchased by the Hope Company? A. Yes, sir.

Q. And in part overheads? A. Yes, sir.

Q. Is that not so? A. Yes.

Q. We would be glad to have you check these figures, all of them, and if you find any error in them, to have you

report that, because we want an accurate comparison in the record.

Now am I correct, then, that practically all the problems you had in connection with this were where you disagreed in principle with what occurred in that well-drilling account? A. Yes, I think that is the majority of the difference.

Q. I don't mean by that to say that there weren't disputed items in other accounts, but that account illustrates the three things that I have discussed with you where, in

—2899—

principle, you were not in agreement, doesn't it? A. Yes, sir.

—2903—

Q. No, I am talking about this \$120,000 of labor that you say you disallowed because they were estimates, and you didn't know how they were made, and I am asking you if it isn't a fact that these represented construction costs and labor costs of lines for which there was no labor cost recorded in plant accounts, so that you know they are other lines, and of course you know they got into the ground in

—2904—

some way, don't you? A. Yes, but that still wouldn't keep me from thinking that there might be a possibility of improper distribution of labor.

Q. Well, it is true that you don't just know now why you did turn it down, isn't that a fact? A. Because I didn't think it was properly supported, it was estimated and I wasn't convinced that the expenditures were made.

Q. And when you came to an item that you didn't think was properly supported, was an estimate, and so on, you didn't go out and determine what the right estimate for that was, did you? A. No, sir.

Q. You just turned it down and didn't use it, isn't that a fact? A. That is right.

Q. As to all the estimates that were submitted to you by Mr. Antonelli, in this account and others, did you have an engineer review those estimates to see whether they were proper or not? A. I didn't, no, sir.

Q. As far as you know, nobody on the Commission's staff reviewed them to see whether they were proper, no engineer? A. Not that I know of myself.

—2905—

Q. At any rate, if they did, they didn't report to you about it, and they are not reflected in any way in your figures, are they? A. No, sir.

Q. Well, you didn't assume to review an engineering estimate yourself and arrive at an opinion as to whether it was proper or not, did you? A. No, sir.

Q. Now, Mr. Pace, I direct your attention to the next group of accounts known as Transmission Plant. I am correct, am I not, that the only sizable items of difference there are \$284,000 for compressor station structures; \$1,048,000 for mains, which is transmission mains; and \$629,000, which is compressor station equipment—is that right? A. Those are the three principal amounts.

Q. And two of those three items relate to compressor stations, and the other, transmission mains. That represents practically all the money in that group of accounts, doesn't it? A. Yes, sir, that is correct.

Q. Am I correct that we have already discussed the principles that you applied in determining your figures on all of those items? A. Yes, sir.

Q. That is, these differences would be due to direct

—2906—

material and labor costs omitted, or for which no records were available and estimates were made; and overheads, would they not? A. Yes, sir.

Q. Now I direct your attention to the second statement that appears in this exhibit, and we would be glad to have you check it, and I want to say to you, so as to save

time, that here is set out, in paragraph (a), the direct material and labor cost, the differences, I will say, between Mr. Antonelli's exhibit and yours, which consist of direct material and labor costs which you did not allow because they were not capitalized, or because they were estimated—\$14,023,000.

The next item is \$679,000, which you transferred to utility plant in service. Now am I right that that item consisted of unoperated leases and some wells, that it consisted almost entirely of those two items, which you transferred out of the utility plant account? A. I don't believe it was transferred entirely out of the plant accounts; it was probably transferred out of the plant in service account.

Q. That is what I meant to say.

So that it would still appear, if the books were set up the way you think they ought to be, it would still appear on the books of the company? A. Yes.

—2907—

Q. And it isn't a disallowance, it is merely setting it aside for a particular reason, is it not? A. Yes.

Q. It is the other items that make the real difference between you, isn't it? A. Yes.

Q. But this \$679,000 is not shown in your \$51,000,000 figure, is it? A. No, sir, that isn't included in the \$51,000,000.

Q. And it is in Mr. Antonelli's figure of \$70,000,000, isn't it? A. Yes, sir.

Q. Then follows there the overheads and the Interest During Construction, which is also at some times considered a type of overhead, isn't it? A. Yes, sir.

Q. And the reasons why you have eliminated each of these groups are shown—I would be glad to have you check this and tell me if this is a correct statement, and Mr. Antonelli's work figures on it are available.

Now I direct your attention to Statement No. 3, which is, in turn, a classification and break-down of the \$14,000,

100 item of direct material and labor costs, and I will be glad to have you make such check of this as you care to and report, if it isn't accurate.

—2908—

But for present purposes, assume it is accurate, and I will ask you if it isn't a fact that the items of property or costs for the construction of property, shown on that page, are not of property that was included in the inventory as of December 31, 1938? A. They are included in Mr. Antonelli's statement.

Q. Well, it is included in the inventory of the Hope Company's property, isn't it? A. Yes, sir, I assume that it is, I didn't check that inventory.

Q. And that inventory was checked and accepted, and it is the one from which you worked also, isn't it, or didn't you pay any attention to the inventory? A. I didn't check it myself.

Q. I didn't ask you about checking it, but did you use it? A. In a manner, yes. It is reflected in the detailed original cost study.

Q. Tell me this,—go to item (f), this well construction account—the 2633 wells, the drilling cost of which is omitted in your statement—those wells were all in the inventory, weren't they? A. Yes, sir.

Q. There is no doubt about that, is there? A. I don't think there is, no, sir.

—2909—

Q. Take the next item of 803,000, the construction costs for 803,000 feet of pipe, ranging in size from 1-inch to 20-inch. That pipe was in the inventory, wasn't it? A. Yes, sir. Mr. Antonelli shows it in his inventory.

Q. For my purposes, assume it was in the inventory, and if you have any doubt about it, check it and report; but now, as a matter of fact, that in its entirety represents money paid by the company first devoting this property to public service for the construction of that property, which

is not reflected in your Exhibit 57-A; isn't that so? A. Those amounts are not reflected in my exhibit.

Q. That is right,—not even to the extent of a dollar, are they? A. No, sir.

Q. And the fact is that your exhibit does not include the money originally paid, for example, in constructing 275 buildings ranging in size from 4' 2" x 5' 6" x 7' 5" to 30' 4" x 20' 6" x 7' 7"? A. It might include that, yes, sir.

Q. What is that? A. It might include that cost, yes, sir.

Q. You think your figures do include that cost? A. I said they might.

Q. Will you check that, and at a later time report to me whether you have a single dollar in there for the con-

—2910—

struction of the warehouses, barns, garages, blacksmith shop, and so on, that are listed there? A. I am afraid that would take another two years to do that.

Q. Mr. Antonelli's work sheets are available, and it won't take you long to check. A. I think it is quite possible that those figures are in our cost figures at the present time. That, again, is a matter of improper distribution of costs.

Q. What do you mean by improper distribution of costs? A. Well, you build a compressor station there and you build one of these little garages or something around it, and whether the labor is buried in the cost of that compressor station or whether it is properly allocated to that little bitty house out in the back yard, I couldn't say. I say it is possible for it to be in there.

Q. Well, your theory is that if you build a garage 30 x 20, and for some reason or other the cost of the materials and the cost of the labor and everything else that goes into that garage originally are not shown in plant accounts, it should be excluded from a consideration of the amount of money actually spent in the first instance for it? A. It

should be included in plant accounts, but the proper cost should be allocated to it at the time it was constructed. As I understand this, Mr. Antonelli has inventoried these

—2911—

buildings and now claims that he finds no costs in the company's records to cover those buildings, which I say doesn't mean that the costs are not, in some manner, already recorded in the plant accounts.

Q. And did you investigate and find out how much they were in the plant accounts at? A. No, that would be practically impossible for us to do.

Q. Well, if it was impossible to do it from an investigation of the books and the vouchers and an analysis of them, did you make any estimate of it? A. No, sir, we didn't make any estimate; it would be practically impossible.

Q. You just didn't put it in, is that right, either by way of estimate or by way of exact ascertainment? A. No, sir, we didn't include it at all.

Q. And the same thing is true of every single one of the items that are listed on this page? A. None of those costs are included in our \$51,207,000.

Trial Examiner: The hearing is recessed, to reconvene at 2 o'clock.

(Whereupon, at 12:30 o'clock p. m., a recess was taken until 2 o'clock p. m., of the same day.)

—2941—

Q. Now, coming back to the first page of this Exhibit 57, the middle paragraph says: "Volume 1 sets forth the investment of Hope Natural Gas Company in gas plant per company books as adjusted at December 31, 1938." I think we developed before that what you mean by investment of the Hope Natural Gas Company in gas plant per company books is the \$51,200,000 we have mentioned; is that right? A. No, sir, the \$53,000,000.

Q. I am sorry. It is the \$53,000,000, which, as adjusted, means the \$51,200,000? A. That is correct.

Q. Then you say the adjusted figure—you are there talking about the adjusted figure of \$51,200,000? A. Yes.

Q. You say the adjusted figure developed in that way shows the original cost as defined in Federal Power Commission's Uniform System of Accounts for Natural Gas Companies of a gas plant. I suppose that still refers to the

—2942—

same figure, does it not? A. Yes, sir.

Q. It is now called an original cost as defined in the Federal Power Commission's Uniform System of Accounts; is that right? A. Yes, sir.

Q. And that is all you mean when you put it on the front cover "Original cost of gas plant as at December 31, 1938"? A. Yes, sir, we are accepting that as the original cost.

Q. It is a different name for the same figure; is that right? A. It is the original cost. That is what we have determined as original cost of the plant, regardless of what it is called.

Q. Then, what you have determined is in accordance with your interpretation of the Uniform System of Accounts? A. Yes, sir.

Q. And that is all it is? A. Yes, sir.

Q. Now, Mr. Pace, it is perfectly clear, is it not, that that figure is not intended by you to be a statement of all of the dollars that were spent by the Hope Company and other persons who first constructed the property shown in

—2943—

this inventory and devoted it to public service at the time it was so constructed? A. It does not, of course, represent every dollar of cost that was spent, but it does represent all of the dollars of cost that we consider as the real original cost of the property.

Q. What you mean by that is, it represents all of the dollars that the companies at the time charged up on their plant accounts? A. We think it represents all of the costs that were put into plant accounts then or at any other time.

Q. Let us avoid the word "cost" because Mr. Smith told us the other day that it had various meanings. A. I said cost in plant accounts.

Q. Is it not a fact that if you had been turned loose and asked, regardless of the Uniform System of Accounts and regardless of interpretation of that, to determine the amount of dollars actually spent for construction of property of the Hope Company by the company first devoting it to public service, that you would have had many millions of dollars more than shown in this exhibit; there can not be any doubt about that, can there? A. If I had to total the number of dollars spent without determining where the cost was—

—2944—

Q. Properly spent, I mean, of course.

Mr. Springer: Permit him to finish his answer.

Mr. Cockley: I thought he had.

The Witness: If it was just a matter of totaling up the number of dollars spent, I would probably come out with a lot more dollars, but I do not see that would change our figures as far as plant accounts are concerned.

Q. Did you understand my question to include dollars properly spent, necessarily spent in the construction and for property in use on December 31, 1938? A. I still say if we were just instructed to total up the number of dollars spent, we would probably have a larger figure than shown here, but that is without showing any distinction as to where the cost should be shown.

Q. Well, if without reference to how the books were kept over the years you had been told to go back to the original vouchers and the original records as far as you could and to make estimates where you could not get them,

but to come in, in the end, with the dollars actually paid by the company first devoting this utility property to service, you would have had substantially Mr. Antonelli's figure, would you not? A. May I have the question again?

Mr. Springer: I object. This witness has testified to volumes 1 and 2, Exhibits 57 and 57-A, original cost, and

—2945—

states that in his opinion that was the only valid original cost for the Hope Company property. He has not done anything of the kind Mr. Cockley has asked him to assume. He has said the original cost depends upon the principles of accounting by the company in the past, and since under the accepted principles of accounting some goes into operating expenses and some is capitalized, you get a different answer, and I do not think it is a proper question to put to Mr. Pace.

Trial Examiner: You summarize in a general way his testimony, but I do not know that I get the objection. Do I understand that the witness is to assume that this calculation or determination which he makes will conform to the Uniform System of Accounts?

Mr. Cockley: Yes, he is to assume it conforms, if he wants to, but I am asking him if it is not a fact if he were sent out without any specific instructions as to how he is to go about it, but he was merely to determine the actual dollars spent in the construction of this utility property as it existed at December 31, 1938 at the time it was constructed, and properly spent by the company first devoting it to public service, if he would not have substantially the same amount shown by Mr. Antonelli in Exhibit No. 20.

Mr. Springer: But you have not included in this ques-

—2946—

tion he would have access to income statements as well as plant accounts.

Mr. Cockley: I do not have to include in my assumption something you think should be in the assumption.

Mr. Springer: You are asking him to ignore the other part of a Siamese twin; you are confining it to plant—

Mr. Cockley: I do not care to argue with you, Mr. Springer. I have asked a question and you have not made a legal objection to it.

Mr. Springer: I object to his asking Mr. Pace under an assumption that would call for a similar study that Mr. Antonelli made and which Mr. Pace has challenged here by putting in a different original cost statement showing the only valid original cost for Hope Natural Gas Company at the end of 1938.

Trial Examiner: I assume the witness as an accountant would know what he would have to do to make the determination. I do not understand that counsel has restricted him to any particular records of any kind. The objection is overruled.

Mr. Cockley: Will you read the question?

(Question read.)

—2947—

Trial Examiner: Read the question, please.

(Whereupon the reporter read the pending question.)

The Witness: Not for plant accounts, I wouldn't.

By Mr. Cockley:

Q. I didn't ask you anything about plant accounts. I am asking you to state the dollars actually and properly spent for property in existence on December 31, 1938; but at the time that property was first devoted to public service by the company constructing it? A. As far as total number of dollars is concerned, of course if I secured my information from the same records that he did—

Trial Examiner: (Interposing) And made the same estimates?

The Witness: Yes, and made the same estimates—I would probably come out with approximately the same number of dollars; but again I would say that I don't know

that we would be anything like close together so far as plant costs are concerned.

By Mr. Cockley:

Q. What do you mean by "plant costs"? A. He shows plant costs—

Q. (Interposing) That is a classification; but I am asking you what you mean by "plant costs"? A. The costs that are charged to plant in accordance with good accepted accounting principles.

Q. And it is only that part of the cost that is charged

—2948—

to plant that you have used, isn't it? A. Yes, sir.

Q. And the other part of the cost, like well drilling, that is drilling that was charged to expense, you haven't shown? A. No—in this case where it was expensed, I left it there.

Q. All right. In other words, you haven't any doubt, have you, that if you spend \$5000 for drilling a well, and \$5000 for equipping it, that the original cost of that well, the actual dollars spent for it, is \$10,000; there is no doubt about that, is there? A. Not a bit.

Q. Now if subsequently the utility charges \$5000 of that to expense and \$5000 to plant account, you treat the cost of that well from there on as \$5000, don't you? A. Yes.

Q. And as far as you are concerned the original cost changes the minute you put it on the books, from \$10,000 to \$5000, doesn't it? A. The original cost of plant account does.

Q. I am talking about the original cost of the well, A. The total number of dollars of course remains the same.

Q. And you didn't try in this case to go back and determine, in the case of any item of property, that total number of dollars originally spent, regardless of how it

—2949—

was charged, did you? A. No, sir.

Q. And I suppose you carry that distinction you have just made into the title here, and that when you say "Original Cost of Gas Plant" you mean by that the original cost of the gas plant account as distinguished from the property of the Hope Company for which those accounts stand, is that right? A. Yes, sir, that is the original cost of the gas plant as determined by the Federal Power Commission examiners.

Q. In other words, in the case of wells you have got the original cost of the well account set up rather than the original cost of drilling and equipping the wells themselves, haven't you? A. Well, this exhibit is only for the original cost of the amounts that are properly chargeable to gas plant.

Q. And not the original cost of the drilling and equipping of the wells, but only that part of the cost that is carried over to the gas plant accounts; isn't that right? A. It is the original cost as we determined it.

Trial Examiner: Does the City of Cleveland have any questions?

Mr. Reeder: One or two questions.

—2953—

RE-DIRECT EXAMINATION by Mr. Springer.

Q. Mr. Pace, will you please refer to page 6 of Exhibit 57, and the last sentence on that page, "It is the opinion of the examiners that the amounts recorded at the

—2954—

time of acquisition represent the original cost as near as can be determined" is the logical result of your substitution of Hope's book figures for Mr. Antonelli's opinions and estimates, isn't it? A. Yes, sir.

Mr. Cockley: I object to that.

Mr. Springer: He has already answered it yes.

Mr. Cockley: All right.

By Mr. Springer:

Q. Mr. Pace, you are aware of the provision in the Natural Gas Act, aren't you, which provides in Section 8 (B) that the burden of proof is on the Hope Company to support claimed expenditures or any items questioned by the examiners of accounts?

Mr. Cockley: I object to that as a wholly improper question. It certainly is not true, as a matter of fact.

Trial Examiner: It doesn't mention the Hope Company, does it, Mr. Springer?

Mr. Springer: No, but it mentions natural gas companies, and Hope is a natural gas company.

Mr. Cockley: Let's be fair about this. We are not making an application to this Commission for an increase in rates, or anything else. We were asked, if not directed, to go ahead and put on our evidence first, and we did it, and did it with the express reservation that we were not thereby assuming any burden of proof. There is no burden of proof cast upon a company which is merely in defend-

—2955—

ing existing rates. If it asks for additional rates, yes, but when it is defending merely existing rates, it does not have any burden of proof, the burden is upon those who allege they are unreasonable and unfair, which is the City of Cleveland in this case.

I don't think it is a proper question to ask this witness in any event; what he knew or didn't know about the burden of proof is a matter of interpretation of the statute in this case.

Mr. Springer: Mr. Examiner, this is a provision of the Natural Gas Act and it is not confined to rate making; it covers specifically, Accounting.

Trial Examiner: Well, that is another question which might well be argued in the briefs. It seems to me that the question is not improper. The question asked the witness is as to whether he is acquainted with this provision in the Act. He isn't called on to interpret the Act or its practicability in the instant case. If counsel expects to go that far I think perhaps we have a different problem.

The objection is overruled.

Mr. Cockley: I would like to have the question read, please?

(Whereupon the reporter read the pending question.)

Trial Examiner: I understand you are willing to amend that to eliminate the use of the Hope Company's name?

Mr. Cockley: I withdraw my objection.

Mr. Springer: Well, any natural gas company, and make it a general provision.

—2956—

Trial Examiner: Of course there is no provision in the Act as you suggest, that is the point.

Mr. Cockley: I wasn't objecting on that ground, but of course the Examiner is perfectly right.

Mr. Springer: May I quote from Section 8 of the Natural Gas Act which is included in the forepart of the copy of the Federal Power Commission's Uniform System of Accounts, Exhibit 58 in this record:

"The burden of proof to justify every accounting entry questioned by the Commission shall be on the person making, authorizing or requiring such entry, and the Commission may suspend a charge or credit pending submission of satisfactory proof in support thereof."

What I have done is paraphrase that in my question.

Trial Examiner: You are familiar with that provision are you, Mr. Pace?

The Witness: Yes, sir.

By Mr. Springer:

Q. Well, Mr. Pace, as a principle of accounting, when you audit any company's books you demand satisfactory proof that an expenditure has been made, don't you? A. Yes, sir.

Q. And you insist on documentary proof where it is

—2957—

available, don't you? A. Yes, sir.

* * * * *

—2964—

Trial Examiner: Is there any re-cross examination of this witness?

Mr. Cockley: One or two questions.

RE-CROSS EXAMINATION by Mr. Cockley.

* * * * *

—2972—

Q. Now your attention was directed to Section 8(A) of the Natural Gas Act which has a sentence in it that the burden of proof, to justify every accounting entry, shall be on the person making or authorizing or requiring such entry—and I think you said you knew that and were you instructed that that imposed upon the Hope Company the duty of supporting, by entries and vouchers, any entry that you might challenge in its accounts? A. I didn't have specific instructions in the case of the Hope Company, but we have always had instructions to carry out those—

—2973—

Q. (Interposing) That is your general instruction?
A. That is my general instruction.

Q. And you felt perfectly free in this case, as applied to the Hope Company, when you came to an item which you questioned, to have the company produce its records on it, and if you were not satisfied with the records or the esti-

mate or whatever it was, you felt perfectly free to disregard it, and just because the company hadn't produced as much evidence as you thought it should have produced: is that right? A. That is correct.

Q. And it is your understanding that this Section that I have read to you is applicable to a respondent whose rates are challenged, as the Hope Company's rates are, in this kind of a case? A. That is my understanding.

Q. And it is applicable to the investigation that you conducted, is that right? A. That is my understanding.

Q. And this exhibit was prepared in part on that assumption, was it? A. Yes, sir.

Q. It was prepared throughout on that assumption, but I suppose you didn't have to apply this rule to every

—2974—

item, did you, Mr. Pace? A. No, not quite.

Mr. Cockley: That is all.

11. TESTIMONY OF COMPANY WITNESS PETER ANTONELLI AS TO ORIGINAL COST OF PROPERTIES ACQUIRED FROM PRIOR UTILITIES, MONDAY, JULY 7, 1941, RECORD PAGES 5042 TO 5049.

—5042—

By Mr. Milde:

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Q. Have you read the testimony of Mr. Pace on the subject of original cost as he defines it? A. Yes, sir.

Q. Do you recall Mr. Pace's statement that the Hope Company made estimates of the original cost to acquire utility properties at the time it purchased them? A. Yes, sir, I do.

Q. Do you further recall that Mr. Pace referred to the acquisition of the Fayette County Gas Company and the Flaggy Meadow Gas Company properties? A. Yes, sir, I recall that.

Q. And specified Voucher Nos. G-353 in 1910 and M-44 in 1902 as showing that such estimates had been made? A. Yes, sir.

Q. Do you have before you the Hope Company's vouchers pertaining to the Fayette County Gas Company

—5043—

acquisition to which Mr. Pace referred? A. I will get them.

Q. Do you now have those vouchers before you, Mr. Antonelli? A. Yes, I do.

Q. How many vouchers were involved in this Fayette County Gas Company acquisition? A. Two vouchers.

Q. Where are they, or what are their numbers, rather? A. One is E-95, 1910; and the other is G-353, 1910.

Q. What does Voucher E-95 show? A. Voucher E-95 shows the amount of money that Hope Natural Gas Company paid Fayette for the properties that they purchased in 1910.

Q. How much was that? A. \$600,000.

Q. What else does it show? A. On its face it bears the written receipt of the Fayette County Gas Company, and also debits Fayette County Gas Company purchase account with \$600,000.

Q. You say this is an actual receipt of the Fayette County Gas Company for \$600,000? A. Yes, sir, there is a written receipt right here.

Q. What does the other voucher, G-353, show? A. This voucher credits the Fayette County Gas Company pur-

—5044—

chase account with \$600,000, distributes the cost over the plant accounts, and charges each account with its allocated portion.

Q. Did you say that it distributes the cost—do you mean the \$600,000? A. Distributes the purchase price.

Q. Does that voucher show how that purchase price of \$600,000 was distributed to the various plant accounts? A. Yes, sir, it does.

Q. And how was that made, as shown by the voucher? A. The distribution was made by pricing a field inventory, using current market prices as of the date of the purchase.

Trial Examiner: Is that what the voucher says?

The Witness: No, the voucher doesn't say that. It says that they paid \$600,000. This is a credit of \$600,000, and it shows it distributed in these various accounts, but here it shows the various amounts for the pipe account.

By Mr. Milde:

Q. Will you explain to the Examiner that that voucher includes subsidiary pages which appear in the envelope that you have before you? A. Oh, yes, I have another part of this voucher here that shows the inventory that I just referred to, and also the current market prices that the Company used to price this inventory.

—5045—

Q. How do you know they are current market prices?

A. By spot-checking some of these prices we were able to

say that they are current market prices, and also from Company men we know that that is the current market price, and they are different from the original cost price.

Now I might say that after we spread these costs, we adjusted the total to the total shown on this voucher; in other words, we came to the \$600,000 when we were finished.

Q. Was there anything in that inventory that showed when the properties were originally built, or anything of that sort? A. No, sir, it is just an inventory, using certain prices, and then adjusted.

Q. And if the price didn't come out right, some adjustment was made all along the line, is that what the voucher shows? A. Yes, sir. That makes me believe that it couldn't be original cost or actual cost to the predecessor, or anything of that kind.

Q. Then those amounts that were arrived at that way were used to distribute the purchase price, were they? A. Yes, they were used to distribute the purchase price over the various accounts, plant accounts.

Q. Now do you also have before you the Flaggy Meadow purchase voucher M-44, for 1902, to which Mr. Pace

—5046—

referred? A. Yes, I have M-44, and I have M-45.

Q. Was there more than one voucher involved in that acquisition? A. Yes, there were several vouchers involved, they are all here.

Q. Well, what does M-45 refer to, which you just mentioned? A. M-45—

Q. (Interposing) Or rather, what does it cover? A. It covers the payment of Hope Natural Gas Company to Flaggy Meadow Gas Company, amounting to \$1,134,010.60. It shows—it is a written receipt that the Flaggy Meadow Company received this money, here is the written receipt (indicating); and it also debits Flaggy Meadow Gas Company account with the purchase amount.

Q. You mean an account called Flaggy Meadow purchase account? A. Yes, sir, that is it.

Q. Well, that shows that the Hope Company paid \$1,134,000 in round figures for that property, and that the Flaggy Meadow Gas Company received that amount of money, is that right? A. Yes, sir, that is what it shows.

Q. What does Voucher M-44 show? A. M-44 shows that the Company credited the Flaggy Meadow Gas Com-

—5047—

pany account with the amount of \$1,134,010.60, and distributes that cost over the various plant accounts.

Q. How is that distribution of the purchase price made? A. It is made in the same manner as I just described in connection with the Fayette County Gas Company purchase in 1910, namely, by distributing this purchase price over an inventory, using current market prices, and then adjusting the total of these to the purchase price.

Q. Now do these vouchers, in connection with the Fayette County Gas Company acquisition and the Flaggy Meadow Gas Company acquisition, indicate in any way that the Hope Company estimated the original cost of these purchased properties to the companies from whom they bought these properties, and made that estimate at the time of purchase? A. Not at all, it is very evident that the Hope Company did not attempt to estimate the original cost of these properties.

Q. Now, Mr. Pace in his testimony referred to the fact that on the Flaggy Meadow voucher M-44, there appeared the words "Average Cost."

Will you explain where that appears? A. This "Average Cost" appears in one of the summary statements, but this, again, is the adjusted current market price that the company used in pricing the inventory as of the date of the purchase, and it is not the cost to Flaggy Meadow Gas

—5048—

Company.

Q. And did you check to ascertain that the costs, or rather the prices used for this inventory pricing in connection with these purchase price distributions over the plant accounts, were not the cost to the predecessor company? A. Yes, sir, it was very plain that it was not the original cost price. We determined the original cost and we know what the actual price is.

Q. And the original cost, as you found by your investigation, was other than the purchase price or the prices appearing in this priced inventory that distributed the purchase price? A. Certainly. The original cost of the—the properties were built at various years, and they couldn't be the same prices.

Q. Are you familiar with Mr. Dunn's testimony that in connection with properties purchased from non-utilities, the practice of the Hope Company was to record the original cost of these properties as nearly as it could be determined at the time of acquisition? A. Yes, sir.

Q. In connection with your examination of the Company's records pertaining to purchased properties, in the course of your original cost study, did you ever find one instance in which the Hope Company estimated or at-

—5049—

tempted to estimate the original cost of the properties purchased at the time of acquisition? A. No, sir.

Q. Did you ever find the Company recorded or attempted to record any estimate of the original cost of purchased properties at the time of acquisition? A. No, sir.

12. **COMPANY WITNESS ANTONELLI'S EXHIBIT NO. 59 ENTITLED: "Comparison of Original Cost (Exhibit No. 20) with F. P. C. Examiners' Adjusted Book Cost (Exhibit No. 57)"**
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Statement 1

HOPE NATURAL GAS COMPANY

Comparison of Original Cost (Exhibit No. 20) with F. P. C. Examiners' Adjusted Book Cost

Account No.	Description	Total Original Cost (Ex. 20, p. 31 Col. 18)*	F. P. C. Examiners' Adjusted Book Cost (Ex. 57, Vol. I, p. 10; Col. J)	F. P. C. Examiners Lower By
Natural Gas Production Plant				
330-1	Natural Gas Producing Lands	\$ 2,370.39	\$ 3,319.84	\$ (949.45)
330-2	Natural Gas Producing Leaseholds			
	Operated Leaseholds, Gas Rights and Royalties	1,684,635.98	1,599,004.86	85,631.12
	Unoperated Leaseholds, Gas Rights and Royalties	681,882.21		681,882.21
330-4	Rights of Way	701,555.24	643,391.47	56,163.77
330-5	Other Land and Land Rights	22,125.56	21,008.52	1,117.04
331-2	Field Measuring and Regulating Station Structures	40,773.27	21,138.92	19,634.35
331-3	Other Production System Structures	291,872.40	191,188.81	100,683.59
332-1	Producing Gas Wells—Well Construction	17,783,637.13	4,089,477.71	13,694,159.42
332-2	Producing Gas Wells—Well Equipment	8,168,191.52	7,610,509.75	557,681.77
333-1	Field Lines	12,301,880.71	11,296,741.40	1,005,139.31
333-2	Field Measuring and Regulating Station Equipment	267,099.02	184,385.03	82,713.99
334	Drilling and Cleaning Equipment	604,936.40	595,692.71	9,243.69
337	Other Production Equipment	89,102.37	75,532.21	13,570.16
	Total Natural Gas Production Plant	\$42,640,062.20	\$26,333,391.23	\$16,306,670.97
Transmission Plant				
351-12	Land	\$ 164,104.55	\$ 162,912.21	\$ 1,192.34
351-23	Rights of Way	442,393.99	391,242.69	51,151.30
352-2	Compressor Station Structures	1,725,945.46	1,441,882.38	284,063.08
352-3	Transmission System Measuring and Regulating Station Structures	11,987.58	8,207.21	3,780.37
352-4	Other Transmission System Structures	11,598.57	6,775.69	4,822.88
353	Mains	15,180,596.17	14,132,074.72	1,048,521.45
354-2	Compressor Station Equipment	8,313,530.62	7,683,671.99	629,858.63
354-3	Transmission System Measuring and Regulating Equipment	26,713.48	17,615.91	9,097.57
354-4	Other Transmission System Equipment	23,041.90	21,015.55	2,026.35
	Total Transmission Plant	\$25,809,822.32	\$23,865,398.35	\$ 2,034,423.97
General Plant (Jointly Used)				
370	Land and Land Rights	\$ 98,187.72	\$ 96,981.21	\$ 1,206.51
371	Structures and Improvements	274,427.36	225,887.78	48,539.58
372	Office Furniture and Equipment	195,911.07	178,683.34	17,227.73
373	Transportation Equipment	148,540.34	142,314.49	6,225.85
374	Stores Equipment	9,465.88	5,106.76	4,359.12
375	Shop Equipment	114,705.84	104,185.17	10,520.67
376	Laboratory Equipment	1,070.22	1,003.40	66.82
377	Tools and Work Equipment	4,634.27	4,545.33	88.94
378	Communication Equipment	347,638.66	248,975.74	98,662.92
379	Miscellaneous Equipment	1,171.98	1,147.84	24.14
	Total General Plant (Jointly Used)	\$ 1,195,753.34	\$ 1,008,831.06	\$ 186,922.28
	Total Natural Gas Production Plant, Transmission Plant and General Plant (Jointly Used)	\$69,735,637.86	\$51,207,620.64	\$18,528,017.22

NOTES: *After deduction of original cost of properties used to transport coke oven gas.

A. Reporting F. P. C. book -

Statement 2

**Parts of Original Cost (Exhibit No. 20) Excluded from F. P. C. Examiners
Adjusted Book Cost for Total Gas Plant (Exclusive of Distribution)**

Description	Costs
(a) Direct material and labor costs:	
For property constructed by Hope and property purchased not as an operating unit	\$12,276,097.31
For property purchased by Hope from other utilities as an operating unit	1,747,698.39
Total direct material and labor costs	\$14,023,795.70
(b) Transfers by F. P. C. Examiners from Utility Plant in Service...	679,093.74
(c) Overheads:	
Unloading, hauling and warehouse handling costs	\$ 402,010.63
Indirect field costs	434,660.36
Purchasing	277,742.93
Payroll	145,919.38
Land	48,570.09
General	1,885,509.56
Total overheads	3,194,412.95
(d) Interest during construction	630,714.83
Total	\$18,528,017.22

Statement 3

**Detail of Direct Material and Labor Costs Excluded from F. P. C. Examiners'
Adjusted Book Cost**

Description	Costs
(a) Abstracting or recording costs for 125 deeds	\$ 2,670.16
(b) Obtaining, recording or abstracting costs for 5,539 leases	120,887.05
(c) 24 Rights of Way consisting of consideration, damages or obtaining costs	3,133.30
(d) 122 wood frame houses, 6'11" x 6'8" x 7'2" average size, and 1,386 wood frame boxes, 4'6" x 3'3" x 2'11", average size	17,235.46
(e) 275 buildings ranging in size from 4'2" x 5'6" x 7'5" to 30'4" x 20'6" x 7'7" consisting of warehouses, barns, garages, blacksmith shop, wagon sheds, tool houses, storage buildings, wash houses, etc. 686 miscellaneous structures consisting of sidewalks, pits, bridges, fences, pipe skids, pipe racks, etc. 1,574 miscellaneous items such as electric lights, plumbing fixtures, drain outlets, painting, water, sewer and drain lines, hardware, roofing, ventilators, electric wiring, sand, cement and stone to complete structure	293,374.32
(f) Drilling and other well construction costs for 2,633 wells	12,643,641.57
(g) Construction costs for 803,389 feet of pipe lines ranging in size from 1" to 20"	229,310.08
(h) Material and installation costs for 2,945 benches, racks, heaters, cabinets, tables, truck flat beds, accessory items, etc. Installation costs for 2,759 items consisting of meter connections of orifice, positive and free consumer meters, miscellaneous equipment such as blueprint machines, brass railing, chain hoists, forgers, motors, air compressors, drip tanks, etc. 2,408 law books	114,213.79
(i) 752 installation costs for auxiliary equipment units, consisting of tanks, pumps, motors, transformers, engines, turbines, gas coolers, scrubbers, compressor cylinders, air compressors, boilers, traveling cranes, etc. Installation costs for pipe and fittings ranging in size from 2" to 30", valves ranging in size from 2" to 20" Installation costs for miscellaneous items, such as floodlights, flow meters, damper regulators, etc.	135,078.44
(j) 9,584 telephone poles with cross arms, brackets, pins, insulators, etc.	80,640.63
(k) Difference between direct material and labor costs (exclusive of well construction) to other utilities and F. P. C. Examiners' Adjusted Book Cost for properties ac- quired as operating units from other utilities	383,610.90
Total (as shown on Statement 2, item (a))	\$14,023,795.70

**13. COMPANY WITNESS RHODES' EXHIBIT NO. 21
ENTITLED: "Reproduction Cost New Less Deprecia-
tion of Company Properties as of December 31, 1938—
Written Statement of George I. Rhodes."**

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WRITTEN STATEMENT OF GEORGE I. RHODES.**1. Scope of this Exhibit.**

In a separate Company exhibit there is set forth in summary form and in detail the reproduction cost new as of December 31, 1938 of the Company's production property, its transmission property and its general property with certain exceptions therein named. This exhibit describes the methods used in determining the depreciation accumulated in that property.

In general the depreciation accrued or accumulated in the property was determined from an extensive and painstaking examination of the property as hereinafter set forth. However, because of the natural limitations of the practicable methods of inspection and to make full allowance for any and all depreciation that exists in fact the percentages of accrued depreciation determined from observation have been increased appropriately wherever necessary.

The attached summary sets forth by accounts the reproduction cost new, the per cent depreciation found to have accumulated in the property, the amount of this depreciation, the per cent condition and the reproduction cost new less depreciation.

2. Depreciation Accumulated in Gas Wells.

The depreciation accumulated in the Company's gas wells was determined from the proportionate decline in useful rock pressure from the time the well was drilled (initial

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pressure) to a lower pressure at which a well may be considered to be exhausted (abandonment pressure). The initial pressures of all operating wells were determined from the Company's records by the Company's geologist. He fixed the average abandonment pressure at 100 pounds per square inch for the Benson and Speechley sands and at

30 pounds per square inch for all other sands. The December 31, 1938 rock pressures were based on the 1938 pressure gaugings taken in the fall of that year as shown by the Company's records.

The per cent condition of each producing sand in each well was determined as the ratio of (a) the excess of the 1938 rock pressure above the abandonment pressure to (b) the excess of the initial rock pressure above the abandonment pressure. The per cent condition of each well was determined as the numerical average of the per cents condition of the sands in that well considering exhausted sands as being in zero condition. The condition of the Company's wells as a group was determined as the numerical average of all the per cents condition of the individual wells.

The per cent condition of Account No. 332-1, Producing Gas Wells—Well Construction, was taken as the average per cent condition of all the wells so determined.

The per cent condition of Account No. 332-2, Producing Gas Wells—Well Equipment, was determined from the gross salvage of equipment, the cost of abandoning wells and the per cent condition of the wells. In determining the per cent condition of this well equipment account the excess of the cost new of the well equipment over and above the net salvage was depreciated in the proportion of the per cent condition of the wells as a group.

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[Details of determination of gross salvage, cost of
abandoning, and net salvage are omitted.]

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During the life of the well the cost of well construction is depleted from 100 per cent to zero, but the equipment depreciates only to the net salvage or to 36.6 per cent. Thus when a well is fully depleted the loss in equipment is only 63.4 per cent of the total equipment cost. At any condition of the well the per cent depreciation in the equipment is therefore 63.4 per cent of that in the construction.

Taking into consideration the above matters, depreciation was found in the Company's gas wells as follows:

	Gas Well Construction	Gas Well Equipment
Total depreciation	68.7%	43.6%
Corresponding condition	31.3%	56.4%

3. Depreciation Accumulated in Pipe Lines.

[Detailed description of field inspection of pipe at 554 locations is omitted.]

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The depreciation was determined from a consideration of the field inspections above described. The records of the field work were tabulated and summarized. They were subject to study and analysis both scientific and practical. Consideration was given to the many factors affecting depreciation through corrosion which are described in the succeeding paragraphs.

Renewals of pipe are most commonly the result of a troublesome succession of leaks caused by corrosion. As leaks occur they are stopped by bolting band clamps around the pipe with a rubber packing over the leaks. Sometimes two or more leaks develop at widely separated dates on the same joint of pipe. The development of leaks first occurs in stretches of lines where for various reasons local condi-

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tions are favorable to corrosion. These are called "hot spots" and range from a few joints to thousands of feet in length. When the leaks begin to develop with troublesome frequency not only is the pipe in the "hot spot" itself renewed but also pipe for an appropriate distance on either side. In practice the worst joints of pipe may have two or more leaks. Stretches of pipe 100 feet long may contain five to ten leaks and other stretches of 100 feet may have no leaks at all. Some of the pipe is suitable for reuse with

a simple cleaning operation, some requires welding up the pits before it can be reused and other pipe is reduced to junk value.

The progress of corrosion has universally been found to fall off with age. When pipe is first buried it starts to corrode rapidly. As time goes on the intensity of corrosion slows down. The field inspections of the Company's major pipe lines were specially studied to determine the Company's experience in this connection. It was for this reason that more inspections were made on the long large lines than on other lines and that many inspections were made on new lines to insure adequate data on corrosion in its early stages. It was found from this study that the corrosion of the Company's pipe slows down to such an extent that doubling the time the pipe has been in place results in less than a 50 per cent increase in pit depths.

It is also the universal experience that the greater the lengths of pipe examined on inspection the greater will be the average depths of the deepest pits found. This is illustrated by the fact that the average depths of the deepest pits found on the 554 three foot sections of the Company's pipe inspected in 1939 were 10 per cent greater than the average depths of the deepest pits found in the 1108 eight-

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een inch sections. A study of the relative depths of the deepest pits in the 18 inch sections was made in conjunction with the deepest pits in the 3 foot sections from which was determined by scientific analysis the average depths that could be expected in greater lengths of the Company's pipe—20 foot, 40 foot, or 50 foot—as the case might be. This study also determined the number of pits required to be welded in reconditioning.

Through a correlation and application to the field inspections of the rules of corrosion outlined above by the use of proper engineering methods it was determined that the production system pipe lines of the Company had pro-

gressed through corrosion towards complete depreciation by 22.5 per cent and that the transmission system pipe lines of the Company had progressed through corrosion towards complete depreciation to the extent of 20 per cent. To insure the inclusion of all depreciation existing in fact in the lines the above percentages were increased to 26% in the production system pipe lines and to 21% in the transmission system pipe lines. While these inspections were made in the spring and early summer of 1939 they fairly represent the accrued depreciation as of December 31, 1938.

4. Depreciation Accumulated In Compressor Station Equipment.

The wear and tear and other deterioration that has developed in the compressor station equipment was determined from a detailed field inspection of all of the main units and a more general but complete inspection of the many units of auxiliary and miscellaneous equipment. Particular attention was given to the wearing parts such as power and compressor cylinder assemblies, valves and

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valve gears and the like. The condition of each important wearing part was determined and recorded in the field. The field reports were summarized, analyzed and studied, and determinations made of the over-all physical condition of the equipment in each compressor station.

In determining the condition of this equipment consideration was given to the fact that the greater part of the cost of the equipment is in non-wearing parts which are subject to replacement only as a result of an accident. The over-all rating of any particular unit was determined by giving weight to the condition and the relative contribution to cost of the wearing parts and the existence of any defects in the non-wearing parts which had been damaged by accidents or otherwise. In determining the condition of boilers not only were they inspected but several years

insurance inspection reports were taken into consideration. It was not reasonably possible to inspect buried equipment such as foundations, piping, etc. and such equipment in each station was rated at the average condition of all the equipment in that station. The yard piping was rated as being in the same physical condition as transmission line piping. The over-all physical condition of each station was arrived at by giving weight to the relative cost of the equipment separately rated on inspection.

A few stations contain equipment which has not been used for a period of years but which is available for movement to and re-erection at other locations as required. In stations containing this equipment, its cost installed has been depreciated to the cost of the equipment itself as though carried in a warehouse. In other stations equipment of types being gradually retired by the Company or

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susceptible of modernization through retirement and replacement of parts has been appropriately depreciated.

The observed depreciation accumulated in the equipment in each compressor station was determined by a consideration of the factors outlined above. It was found that in the aggregate the Company's compressor station equipment had depreciated 17 per cent. To insure the inclusion of all the depreciation existing in fact in the compressor station equipment the above percentage was increased to 19 per cent. While these inspections were made in the fall of 1939 they fairly represent the accumulated depreciation as of December 31, 1938.

5. Depreciation Accumulated In Buildings And Structures.

The deterioration existing in buildings costing more than \$1000 each was determined in general by a detailed inspection of each of the buildings in the field. These buildings aggregate some 470 in number and constitute about 71 per cent. of all the Company's structural property. Mis-

cellaneous improvements aggregating a further 19 per cent of all the Company's structural property were separately inspected to the extent of about one-half in value, the remainder being largely underground. The deterioration in the smaller buildings, some 2670 in number, was determined by an extensive sampling and individual inspection of about 20 per cent of these smaller buildings. In this field inspection the various parts of the larger buildings and structures such as visible foundations, walls, framework and roof were separately rated as to physical condition. The smaller buildings were inspected in less detail appropriate to their lesser costs.

The field inspections were tabulated and summarized and the condition of the buildings determined in groups such as those at each compressor station and the like. In determining the depreciation existing in these buildings be-

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cause of deterioration, there was taken into account the depreciation found to exist in the various parts, the relative extent to which these parts contributed to the whole cost of the structures and the relative extent to which the individual groups of structures contributed to the whole cost of the group. Incidental details of the structures were taken as being in the same condition as the structures themselves.

Certain buildings soon to be retired were depreciated to gross salvage. Generally such buildings shelter equipment available for movement to other locations. The known early abandonment of certain structures or parts thereof was appropriately allowed for.

The observed depreciation accumulated in the buildings and structures of the several accounts both as found and as adjusted to insure the inclusion of all the depreciation existing in fact are shown below.

	Observed Depreciation	Total Depreciation
Gas Well Structures	40%	44%
Field Measuring and Regulating Station Structures	44	49
Other Production System Structures	39	43
Compressor Station Structures	25	28
Transmission System Measuring and Regulating Station Structures	37	41
Other Transmission System Structures	27	30
General Structures	26	27

The inspections of property on which the above percentages are based were made in the fall of 1939, but they fairly represent the condition of the property as of December 31, 1938.

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6. Depreciation Accumulated In Measuring And Regulating Station Equipment.

The depreciation accumulated in measuring and regulating station equipment both production and transmission was determined by inspections in the field and by a consideration of the Company's records related to the retirement and depreciation of such property.

Installations of meters and regulators were conditioned for physical depreciation by taking into consideration their condition of maintenance found by inspection and the fact that the greater part of the total cost of such equipment consists of parts which are replaced for causes other than deterioration. The buried pipe in the production system meters and regulators was taken to be in the same physical condition as the production system pipe lines and the buried pipe in the transmission system installations was taken to be in the same physical condition as the transmission system pipe lines. It was found that the total observed

deterioration existing in meter and regulator equipment was 19 per cent for the production equipment and 22.5 per cent for the transmission equipment. To insure the inclusion of all depreciation existing in fact in such equipment, the above percentages were increased to 21 per cent in production meter and regulator equipment and 27 per cent in transmission meter and regulator equipment.

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7. Depreciation Accumulated In Communication Equipment.

The depreciation accumulated in communication equipment was determined from an inspection of the property in the field. By a sampling method approximately 1,000, or 5 per cent, of the Company's poles were inspected as to condition at reasonably accessible locations. At each point of inspection the poles, fixtures, insulators and supporting wire were separately rated as to their condition. All of the station equipment was inspected in the field.

It was found that the deterioration existing in the communication equipment is 27 per cent. To insure inclusion of all depreciation existing in fact the deterioration as found was increased to 32 per cent. The inspections were made in the summer of 1939 but they fairly represent the condition as of December 31, 1938.

8. Depreciation Accumulated In Transportation Equipment.

The depreciation accumulated in automotive equipment was determined from a study of the records of 155 automobiles and 131 trucks operated and disposed of by the Company from 1925 to 1938, inclusive, as compared with the 77 automobiles and the 76 trucks owned as of December 31, 1938. These records show that the mileage at time of turn-in has increased materially within the past ten years, as well as the percentage of cost recovered at the time of turn-in. This experience of the Company is in accord with

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the universal experience as to the improving quality of automobiles and trucks available in the market. Taking into account this steady improvement in automotive equipment as to mileage and turn-in ratio and the average mileage of automobiles and trucks at December 31, 1938, it was found that the automobiles in the aggregate were 36 per cent depreciated and the trucks in the aggregate 50 per cent depreciated as of December 31, 1938. The condition of the other transportation equipment amounting to about one-eighth of the whole account was determined in various ways appropriate to the class of equipment, and was found to be 42 per cent depreciated. Transportation equipment in the aggregate was found to be 44 per cent depreciated or in 56 per cent condition.

9. Depreciation Accumulated In Miscellaneous Property Accounts.

The major accounts including gas wells, pipe lines, compressor equipment and structures constitute about 95 per cent of the Company's properties subject to depreciation. The methods of determining the depreciation accumulated in the property constituting these accounts have been described above in considerable detail. There have also been described above the methods of determining depreciation accumulated in four minor but diverse types of property aggregating about 1 per cent of the remaining 5 per cent. The depreciation accumulated in the other miscellaneous property accounts covering about 4 per cent of the depreciable property has been determined by similar methods appropriate to the respective classes of property. The same care has been exercised in determining the depreciation of these accounts as has been used in the major

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accounts and described above. The condition of these various accounts is shown in the summary, which is attached.

10. Depreciation Accumulated In Undistributed Construction Costs.

In the Company exhibit setting forth the estimated cost of reproduction new of the Company's properties, allowances for undistributed construction costs were adopted which as there explained had repeatedly been used by agreement before the Public Utilities Commission of Ohio and adopted by that Commission in its findings relative to the Company's property. These allowances aggregated 17.72%.

These agreements, above referred to, reached by representatives of The East Ohio Gas Company and representatives of the City of Cleveland in the 1931 East Ohio-Cleveland case and with representatives of the City of Akron in the 1932 East Ohio-Akron case, included also agreements relative to the extent to which these undistributed construction costs depreciated with the property. It was agreed in both cases that those undistributed construction costs to the extent of 11.51% depreciated with the Company's property and the Ohio Commission so found in the 1932 Akron and the 1937 East Ohio-Cleveland cases. In the 1931 Cleveland case the Commission made no findings as to depreciated cost of the Company's property except as to pipe lines.

In view of the repeated use of the above percentage of depreciating undistributed construction costs by engineers representing the various parties to rate controversies involving this same property and by the Ohio Commission in its findings related thereto, this same percentage has been used in this exhibit. Such allowance for the depreciating undistributed construction costs is fair and reasonable.

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11. Summary

The estimated cost of reproduction new of the Company's properties here considered as set forth in the separate Company exhibit previously referred to and this re-

production cost new less depreciation determined as described in this exhibit, all as of December 31, 1938, are summarized by accounts on the attached statement which shows:

Reproduction cost new as of December 31, 1938	\$94,973,856
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Depreciation accumulated as of December 31, 1938	32,774,442
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Reproduction cost new less depreciation as of December 31, 1938	\$62,199,414
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Per cent of depreciation accumulated	34.51%
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Corresponding per cent condition	65.49%
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SIGNED at Clarksburg, West Virginia, this May 16, 1940.

GEO. I. RHODES.

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HOPE NATURAL GAS COMPANY

Natural Gas Production Plant, Transmission Plant and General Plant (Jointly Used)

Estimated Costs of Reproduction New and Less Depreciation as of December 31, 1938

(Exclusive of Leaseholds, Properties Used to Transport Coke Oven Gas, Working Capital and Going Concern Costs or Value)

Summary by Accounts

Account Nos.		Description	Cost New	Accumulated Depreciation		Per Cent Condition	Cost New Less Depreciation
Old	New W. Va. P. S. C.			Per Cent	Amount		
Natural Gas Production Plant (exclusive of leaseholds and properties used to trans- port coke oven gas)							
204	330-1	Natural Gas Producing Lands	\$ 2,275	0.0 %	\$ —	100.0 %	\$ 2,275
206	330-4	Rights of Way	772,814	0.0	—	100.0	772,814
204	330-5	Other Land and Land Rights	21,045	0.0	—	100.0	21,045
210	331-1	Gas Well Structures	11,912	44.0	5,241	56.0	6,671
209	331-2	Field Measuring and Regulating Station Structures	58,222	49.0	28,529	51.0	29,693
210	331-3	Other Production System Structures	374,267	43.0	160,935	57.0	213,332
211	332-1	Producing Gas Wells—Well Construction	19,321,139	68.7	13,273,622	31.3	6,047,517
212	332-2	Producing Gas Wells—Well Equipment	10,874,199	43.6	4,741,151	56.4	6,133,048
213, 214	333-1	Field Lines	17,282,312	26.0	4,493,401	74.0	12,788,911
215, 217	333-2	Field Measuring and Regulating Station Equipment	307,222	21.0	64,517	79.0	242,705
216	334	Drilling and Cleaning Equipment	1,028,888	27.0	277,800	73.0	751,088
249, 251, 256, 257	337	Other Production Equipment	112,910	28.0	31,615	72.0	81,295
Total Natural Gas Production Plant (exclusive of leaseholds and prop- erties used to transport coke oven gas)			\$50,167,205	46.00%	\$23,076,811	54.00%	\$27,090,394
Transmission Plant (exclusive of properties used to transport coke oven gas)							
218	351-12	Land	\$ 155,842	0.0 %	\$ —	100.0 %	\$ 155,842
220	351-23	Rights of Way	554,352	0.0	—	100.0	554,352
221, 223	352-2	Compressor Station Structures	1,957,473	28.0	548,092	72.0	1,409,381
222	352-3	Transmission System Measuring and Regulating Station Struc- tures	14,842	41.0	6,085	59.0	8,757
223	352-4	Other Transmission System Structures	12,507	30.0	3,752	70.0	8,755
226	353	Mains	16,500,288	21.0	3,465,060	79.0	13,035,228
224	354-2	Compressor Station Equipment	9,874,271	19.0	1,876,111	81.0	7,998,160
225	354-3	Transmission System Measuring and Regulating Equipment ...	30,731	27.0	8,297	73.0	22,434
249, 251, 256, 257	354-4	Other Transmission System Equipment	30,795	27.0	8,315	73.0	22,480
Total Transmission Plant (exclusive of properties used to transport coke oven gas)			\$29,131,101	20.31%	\$ 5,915,712	79.69%	\$23,215,389

(Concluded on next page)

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Summary by Accounts (Concluded)

Account Nos.		Description	Cost New	Accumulated Depreciation		Per Cent Condition	Cost New Less Depreciation
Old	New W. Va. P. S. C.			Per Cent	Amount		
General Plant (Jointly Used) (exclusive of properties used to transport coke oven gas)							
244, 245	370	Land and Land Rights	\$ 75,018	0.0	\$ —	100.0	\$ 75,018
247, 248	371	Structures and Improvements	297,298	27.0	80,270	73.0	217,028
249	372	Office Furniture and Equipment	210,047	30.0	63,014	70.0	147,033
252, 253, 256	373	Transportation Equipment	166,990	44.0	73,476	56.0	93,514
251	374	Stores Equipment	10,304	25.0	2,576	75.0	7,728
251, 256, 257	375	Shop Equipment	189,110	23.0	43,495	77.0	145,615
224, 257	376	Laboratory Equipment	3,971	15.0	596	85.0	3,375
257	377	Tools and Work Equipment	5,365	15.0	805	85.0	4,560
255	378	Communication Equipment	419,860	32.0	134,355	68.0	285,505
249, 257	379	Miscellaneous Equipment	1,488	25.0	372	75.0	1,116
Total General Plant (Jointly Used) (exclusive of properties used to transport coke oven gas)			\$ 1,379,451	28.92%	\$ 398,959	71.08%	\$ 980,492
Total Of Above			\$80,677,757	36.43%	\$29,391,482	63.57%	\$51,286,275
Undistributed Construction Costs			14,296,099	23.66%	3,382,960	76.34%	10,913,139
Total Natural Gas Production Plant, Transmission Plant and General Plant (Jointly Used) (exclusive of leaseholds, properties used to transport coke oven gas, working capital and going concern costs or value)			\$94,973,856	34.51%	\$32,774,442	65.49%	\$62,199,414

**14. TESTIMONY OF COMMISSION WITNESS
CHARLES W. SMITH AS TO PRINCIPLES OF
DEPRECIATION, WEDNESDAY, APRIL 23, 1941,
RECORD PAGES 2826 TO 2850.**

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Whereupon, CHARLES W. SMITH resumed the stand and testified further as follows:

DIRECT EXAMINATION by Mr. Springer.

Q. Mr. Smith, you testified on the principles of accounting yesterday, did you not? A. I did.

Q. And you made a statement of qualifications. Have you had any experience in connection with determining depreciation expense and accrued depreciation, and if so will

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you please describe it briefly? A. I have been actively dealing with depreciation matters since 1920. When I was in the Income Tax Unit of the Internal Revenue Bureau, I necessarily passed upon depreciation claims in numerous, probably hundreds, of cases. In fact, as I look back upon it, it seems that almost every large case involved depreciation in one manner or another. When I was in the employ of the Public Service Commission of Maryland, one of my duties was to pass upon matters of depreciation expense and the depreciation reserve.

Since joining the staff of the Federal Power Commission, I have taken an active part in the functions of the Commission as relating to depreciation. Here again, depreciation is involved in almost every rate case. Thus, since 1920, I have been constantly applying depreciation principles, have been determining service lives, depreciation rates, depreciation expense and accrued depreciation. In addition, I have been a close student of public utility depreciation matters and have taken a very active part in

the work of the Committee on Depreciation of the National Association of Railroad and Utilities Commissioners.

Q. Have you supervised in a general way the preparation of an exhibit showing depreciation and depletion of gas plant as of December 31, 1938, for the Hope Company?

A. I have.

Incidentally, when I speak of depreciation hereafter,

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depletion will be included in the meaning of the term. For convenience, in other words, both depreciation and depletion will be spoken of as depreciation.

Q. And the exhibit referred to shows the annual and accrued depreciation and depletion as related to the original cost of the gas plant of the Company, does it not? A. It does.

Q. Are there two phases to the depreciation problem?

A. There are. One phase relates to depreciation expense, and the other phase relates to depreciation in the properties as of a particular date, the latter being referred to as accrued depreciation.

Q. Is the purpose of depreciation accounting to determine, as reasonably accurately as possible, another element of the cost of service for a given period? A. Yes, that is true.

Q. What do you mean by the word "depreciation"?

A. Depreciation signifies the expiration or consumption, in whole or in part, of the service life, that is, the economic life or utility, of depreciable property resulting from the action of one or more of the various forces which operate to bring about the retirement of such property from service. Among the forces so operating are wear and tear, decay, action of the elements, inadequacy, obsolescence, and public requirements.

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Q. Is depreciation wear and tear? A. No, depreciation is not wear and tear. Wear and tear is simply one of

the forces which operate to bring about the retirement of property.

Q. Is depreciation inadequacy? A. No, inadequacy is also only one of the forces which operate to bring about the retirement of property.

Q. Is depreciation obsolescence? A. No, true depreciation is not obsolescence. Again, obsolescence is merely one of the forces which bring about the ultimate retirement of property.

Q. Will you please explain the difference between depreciation per se and the forces bringing about the retirement of property? A. All physical property of a utility, except certain land, will come to the end of its useful or economic life. If it did not come to the end of its economic life, if its life, in other words, were perpetual, there would be no depreciation. The force or forces causing the ultimate retirement of property are usually classified into two broad categories, such as physical and functional. Wear and tear, or deterioration, is the chief physical cause of retirement, whereas inadequacy and obsolescence are the chief functional causes.

Sometimes, of course, several causes of retirement are acting simultaneously. Depreciation, however, is not syn-

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onymous with retirement or with the cause of retirement. Depreciation results, as I have indicated, because the properties will not last forever. Depreciation, itself, is the diminution, the lessening, or the reduction in the service life of properties.

Service life is the same as economic life, the utility of property, or the over-all work it will do or what it will yield during its useful life in service. Depreciable assets are, therefore, no more than stored-up services. The purchase of a gas well is the purchase of so much gas in the ground. The purchase of an automobile is, in reality, the purchase of so many automobile miles or automobile hours of service.

The purchase of a building is the purchase of so much shelter. The purchase of a gas transmission line is the purchase of so much transmission service. The purchase of capital goods, in other words, is the purchase of future service. This is obviously so, for otherwise capital goods would have no economic value. As Professor Taussig classically remarked, "the printing press ripens into books."

Plant costs are incurred to make production possible. The use of plant results in some sort of production, and this production reduces to possession some of the over-all stored-up service, over-all yield of work units.

As service is performed, a corresponding part of the cost of plant—that is, the cost of stored up services—should be charged as an expense of doing business—depreciation expense.

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As this service capacity, or utility, or economic life, or service life, which Professor Paton calls a "bundle of services," is used up, depreciation occurs regardless of the cause of final retirement. The present fact of depreciation does not vary because of the nature of the ultimate retirement. Only the fact of ultimate retirement and the time of retirement are important. The final retirement may be due to deterioration, exhaustion of natural resources, inadequacy, obsolescence, or some other cause, but the cause of ultimate retirement should not be confused with depreciation itself, which is a diminution in service life.

To illustrate this point, if a certain gas well will produce one million cubic feet of gas during its useful life, and if the well has no salvage value, then every time a thousand cubic feet of gas is removed, a proportionate part of the economic or service life of the well has been consumed or has expired. This results in depreciation and depletion. Each unit of production,—and I use production, in the broad sense of service,—reduces the utility or the over-all yield of the item and reduces the economic worth. This reduction is depreciation.

Q. Then what you have said supports the unit-of-production method of computing depreciation, Mr. Smith?

A. Yes, theoretically, it does, and actually that method has been applied in the instant case to as large a part of the

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property of the company as is feasible. In other words, certain of the costs, such as the cost of well construction and the cost of laying field lines, are depreciated on the basis of production. It is not practical, however, to apply that method to many other items of plant. It is very seldom possible to apply the unit-of-production method to a large part of the properties of a public utility. The reason is that sufficient data necessary to apply the unit-of-production method are not available, and could not be made available without the expenditure of large sums of money, and it is doubtful if the data could be made available even by that means, and the result would not likely vary greatly from results which obtain from the use of the straight-line method. The straight-line method is the nearest approach to the unit-of-production method for a utility, in my opinion. That method emphasizes the time element. There is very good reason for the application of the straight-line method to public utility properties, for the service or economic life does have a direct relationship to the expiration of time, and because public utility operations are relatively stable compared with other business enterprises.

I might add, too, that the straight-line method is used far more than any other depreciation method. In fact, no other method comes even close to having the widespread application of the straight-line method.

Q. Well, Mr. Smith, what, in your opinion, is "actual

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existing depreciation"? A. Actual existing depreciation is the expired, diminished, or consumed service life, which I also term the economic life, of a utility's depreciable plant.

Q. How, in your opinion, should actual existing depreciation be determined? A. First of all, it is necessary to estimate the over-all service life of the various property items. In making this estimate, resort should be had to a thorough field inspection of the property and then consideration should be given to all other available data, such as life tables, mortality curves, retirement experience of the company, et cetera, which may have a bearing on the problem.

After service lives have been determined, they are converted into depreciation rates. These rates should then be applied to the cost of properties so as to determine that part of the cost which is associated with the expired, consumed, or diminished service life. This means that a properly computed depreciation reserve will be determined from the depreciation rates. In other words, a properly computed depreciation reserve measures, in my opinion, the actual existing depreciation on a cost basis, for it measures the cost of the economic life which has expired, or which relates to past transactions.

It was the practice at one time to charge off the plant

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cost directly as depreciation occurred rather than indirectly through the use of a depreciation reserve. It should be borne in mind that the reserve for depreciation is simply a complement to the plant account. It is a part of the plant account, being contra thereto.

Q. In your opinion, is so-called "observed depreciation" true depreciation?

Mr. Cockley: To which question the respondent objects on the ground that the witness has shown no qualifications to answer it, it being, as I understand it, a strictly engineering question.

Mr. Springer: It is hardly strictly an engineering question that hasn't come to Mr. Smith's knowledge in his 20 years of appraising depreciation studies. He is certainly entitled to an opinion on it.

Mr. Cockley: May I interrogate him briefly upon his qualifications?

Trial Examiner: Well, I doubt that that will be necessary. There has always been a question in my mind as to whether it was either strictly an engineering problem or strictly an accounting problem, and I have often wondered just what kind of an expert you might put on the stand to testify with respect to that. If you wish to go into Mr. Smith's qualifications in that respect, you may do so.

Mr. Springer: Could that be reserved until he has an-

—2835—

swered my question? He is amply qualified to assert his opinion on such a depreciation study as the so-called observed depreciation.

Trial Examiner: Of course, the question has been raised as to whether he is or not. I think perhaps we might postpone the answer to the question until Mr. Cockley has had an opportunity—

Mr. Springer: (Interposing) He has already testified that he has spent 20 years in appraising depreciation studies, and that he himself has determined service lives and the annual depreciation expense.

Trial Examiner: Well, I am satisfied as to the witness' qualifications, but you realize, of course, that Mr. Cockley is making up a record here, and he is entitled to develop those qualifications on that.

Mr. Cockley: Am I right, Mr. Smith, that your experience with depreciation in the past has been as an accountant?

The Witness: Not exclusively, Mr. Cockley.

Mr. Cockley: Are you an engineer?

The Witness: No, sir.

Mr. Cockley: Have you had any engineering experience at all?

The Witness: I have charge of a certain engineering group, they work under my direction. I have studied the phases of engineering which relate to regulation, certainly

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for the last 12 years or more.

Mr. Cockley: Will you define for me exactly what you mean or what you understand by so-called "observed depreciation" as used in the question put to you?

The Witness: You go out and look at the properties; you measure the deterioration as far as you can, you measure the pitting in pipes, you observe the physical condition of structures and equipment, you take into consideration all of the defects which are visible to the eye, you take into consideration all of the inadequacy or obsolescence which is visible or effective as of that time, and you convert that into a condition per cent.

I have accompanied field parties in making such studies. I very frankly think that they are worthless.

Mr. Cockley: Well, just a minute. What you think about it isn't the question.

Did you ever have to determine, yourself, the condition of any part of a gas plant or other property based on that?

The Witness: The condition is not depreciation, no, sir.

Mr. Cockley: Or the amount of existing depreciation in it, or how much its service life has expired? Did you ever have to do that as a practical matter?

The Witness: I think we have done it here, a group of us—

—2837—

Mr. Cockley: (Interposing) Just a minute—

Mr. Springer: (Interposing) Permit the witness, please, to finish his answer.

Mr. Examiner, I think the witness should be protected from this interjection of question after question before he completes his answer and explanation.

Mr. Cockley: You are the one that is interrupting him now.

Mr. Springer: I am protecting him now.

Trial-Examiner: Well, I really don't think the witness needs much protection, as far as that is concerned.

Mr. Cockley: I haven't observed that he did.

Go ahead and make your explanation.

The Witness: What I wanted to say was that Mr. French, of the Division of Gas Engineering, determined the service lives from a thorough inspection of the property. My staff worked in very close association and collaboration with Mr. French, and we applied his service lives or depreciation rates, so that in this particular case I have not determined the depreciation rate element which goes into the determination of expired service lives.

Mr. Cockley: Isn't—

The Witness: (Interposing) But I say a group of us have done that job.

Mr. Cockley: Mr. Smith, isn't it a fact that you

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couldn't, yourself, go to any piece of machinery in the Hope Company's property, or pipe line, and tell from an inspection, or otherwise, when that property's service life would end, or had ended?

The Witness: If it had ended, certainly I could tell.

Mr. Cockley: Well, you could tell because some practical gas man told you that this engine was no longer useful?

The Witness: That is probably so.

Mr. Cockley: And you couldn't—

The Witness: (Interposing) You asked me two questions before.

Mr. Cockley: Answer the other one, then.

The Witness: You asked me whether I could tell the future life. I think by making a study of all the information available I could tell the future life. I have done it in many instances.

Mr. Cockley: Could you look at a compressor and tell whether it was in good operating condition or not?

The Witness: I wouldn't attempt to.

Mr. Cockley: Could you tell by looking at a compressor engine how much of its useful service life—if you had all the information, now, that an engineer could get—could you tell how much of its useful service life had expired?

The Witness: I wouldn't want to do that, and I haven't done it here.

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Mr. Cockley: You couldn't do that, you don't feel qualified to do that, is that right?

The Witness: I wouldn't want to attempt it.

Mr. Cockley: And isn't the most important factor you take into consideration, in determining the service life, the amount of service life that has expired in an item of property at the time it is observed?

The Witness: Well now, we do, but that is not usually done in observed depreciation; that is, our method—

Mr. Cockley: (Interposing) Well, isn't that a fact, that your engineer has to go and consider all the facts that his observation and investigation show him, and determine how much of the service life has expired up to a given date? Isn't that right?

The Witness: No, he doesn't do it that way. In effect he gets that answer, but what he does is to determine an over-all service life and then, by knowing the age of the property, he can get the amount expired.

Mr. Cockley: Isn't it a fact, Mr. Smith, that what he does is determine the amount of the service life that has expired in a given number of years; and project that in the future?

The Witness: No, indeed, that is wrong. First of all, to get the right answer, he must project the over-all service life to get the proportion which has expired,—he can't get the proportion expired unless he knows the over-all life.

—2840—

Mr. Cockley: You have to determine the over-all, first?

The Witness: That is the only real way to do it.

Mr. Cockley: And you don't use at all the condition of the property that he finds it in after 20 years of service to prognosticate how much longer it is going to last?

The Witness: Yes, indeed, you do.

Mr. Cockley: That is exactly what you do?

The Witness: Yes, to get the over-all life.

Mr. Cockley: And that observation and that determination is an engineering question, isn't it, primarily?

The Witness: We have treated it so here.

Mr. Cockley: All right.

I object to this witness expressing any comments on whether, in his opinion, so-called observed depreciation is true depreciation in view of the fact, as he has just stated, that the essential thing in it is an engineering determination.

Trial Examiner: The objection is overruled.

Mr. Cockley: Note an exception.

The Witness: In the cases with which I am familiar, and I have studied a great many cases involving observed depreciation, observed depreciation was not true depreciation. I do not believe true depreciation can possibly be determined by observation alone, because I do not believe by observation alone the expired service life can be de-

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termined. Observation and field inspection of physical properties should be resorted to for the purpose of aiding in the determination of service lives, that is to say, depreciation rates, and these in turn are used in determining the exhausted service life. Observation should not be resorted to for the purpose of determining directly from the physical condition of property the depreciation therein. To repeat, field inspections are most important, but their importance lies in the determination of service lives in

order that true depreciation, which is the diminished, consumed or expired service life, may be computed.

By Mr. Springer:

Q. Mr. Smith, in a gas company where much of the property is underground and not visible, would it be possible for anyone to go out and inspect the property and reach an accrued depreciation answer, if he had no other information than his inspection notes?

Mr. Cockley: I object. That is a theoretical question that relates to a form of inspection to determine a condition, which nobody, so far as I know, has employed in this case.

In addition to that, it calls for an engineering opinion which this witness is obviously not qualified to express.

Mr. Springer: He is certainly entitled to an opinion on this subject, and that is just what Mr. Rhodes did when he had 40 or 50 men look at the property and take samples

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and come in with some sort of an accrued depreciation percent. I am asking him whether or not he knows anybody who has X-ray eyes who can tell how much depreciation exists in a property when most of it isn't visible.

Trial Examiner: You asked him if anybody could do it, not if he knew anybody.

Mr. Cockley: I object to counsel's characterization of what Mr. Rhodes did, because it is just as inaccurate as to call "black," "white."

Wholly aside from that, if this witness wants to be used as a rebuttal witness to Mr. Rhodes' depreciation study in his determination of percent condition, then he ought to take up his exhibit in a logical way and present it, and not come in with some general comment as to what he generally thinks about this assumed situation, which doesn't exist here at all. It is plainly an improper question.

Trial Examiner: Will you read the question again, please?

(The question was read by the reporter.)

Mr. Cockley: There is no such case here.

Trial Examiner: Well, I am concerned about the ability of the witness to testify as to what it is possible for somebody to do. The objection is overruled.

Mr. Cockley: Note an exception.

The Witness: I presume it would be possible to go out and dig up all the pipe and see it. That usually isn't done.

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In practice, sample studies are made. It is my opinion that these sample studies are not sufficient to show the actual existing depreciation of the properties, because they are not sufficient to enable a determination of the exhausted service life.

Mr. Cockley: I move that the answer be stricken on the ground that the last half of it is not responsive to the question.

Trial Examiner: It seemed to me that the last half was more responsive than the first.

Mr. Cockley: Then I move to strike it all out.

Trial Examiner: The motion is overruled.

Mr. Cockley: Exception.

By Mr. Springer:

Q. Mr. Smith, I believe you said that it wasn't possible to see the inside of much of the gas company's equipment. Is it important to know the age of the various classes of property so far as that can be ascertained? A. Yes, it is important to have knowledge of the age of property in computing the expired service life.

Q. And is it important to know the retirement experience of the company for various classes of property? A. Yes, that retirement experience of the company is one of the factors that ought to be taken into consideration in determining service lives.

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Q. Is it important to study the maintenance policies and practices of the company? A. Yes, of course.

Q. From your former testimony, then, you believe that properly computed depreciation reserves measure the actual depreciation in properties? A. Yes, that is correct, assuming now we are speaking of a cost basis. It is correct, for in my opinion; a properly computed depreciation reserve measures, as best can be measured, that part of the bundle of services we call plant, which has been used up.

Q. Now, Mr. Smith, in your discussion of the principles of depreciation and the definitions that you have given, are they consistent with the definitions of depreciation and depletion in the Federal Power Commission's Uniform System of Accounts for Natural Gas Companies?

Mr. Cockley: I object to that. Plainly, if they want to prove what these are, they should introduce the exhibit and let it speak for itself, and not ask the opinion of the witness as to whether what he has done is, in his opinion, consistent with it, when they can safely wait until there is an attack on him on that basis.

— Mr. Springer: Mr. Examiner, he is certainly entitled to state whether or not his testimony is consistent with the definition in the System of Accounts which he is re-

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sponsible for interpreting.

Mr. Cockley: I never heard of such a suggestion in my life, for a witness to do that. Now he may testify, if he wants to, that the depreciation principles set forth in the Code of Accounts were the ones he instructed the engineers to follow. That would be perfectly proper. But to ask him if, in his opinion, his own testimony is consistent with that Code of Accounts is, to my mind, a conclusion of the witness, it is wholly unwarranted by anything I know, except in cross examination. It probably would be a proper

question for somebody to ask on cross examination as a foundation question, but to ask the witness himself whether, in his opinion, what he had done conformed to some depreciation Code of Accounts, or conformed to the Statutes of the State, or conformed to the Constitution of the United States, is wholly improper.

Mr. Springer: I haven't asked an expert witness for an improper conclusion. He is eminently qualified, and I have asked him whether or not the various definitions he has used in his testimony here are consistent with the precise wording of the definition in the System of Accounts. I can't see anything objectionable about that.

Trial Examiner: Well, of course, it certainly calls for a conclusion on the part of the witness.

Mr. Springer: I think expert witnesses make conclusions constantly, I think that is an accepted fact.

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Mr. Cockley: Not of that kind.

Trial Examiner: It is perhaps true that under the strict rules of evidence the question would be improper. I am satisfied that a good many that have been asked in this proceeding would certainly be; but of course, we don't follow those rules here, and I can't see where any particular harm might result from it.

The objection is overruled.

Mr. Cockley: Exception.

The Witness: Yes.

Mr. Springer: That is all from Mr. Smith at this time.

Mr. Cockley: We reserve the right to cross examine after we have had a chance to examine his testimony in a little more detail, but I would like to ask one or two questions now, that have occurred to me, if I may.

Trial Examiner: Surely.

CROSS EXAMINATION by Mr. Cockley.

Q. Did you assume that Mr. Rhodes, in the determination of accrued depreciation of the Hope Company's property, did or did not give consideration to age of various items of property which he was expressing an opinion about? A. I think, from reading his testimony, that he gave some consideration to age.

Q. And did you answer the questions you did on the

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assumption that he did not know and give weight to the retirement experience of the company, to various classes of property? A. What question are you referring to?

Q. Expressing your general opinion. A. I don't recall giving testimony on Mr. Rhodes' method.

Q. No, but in discussing generally the method of determining the depreciation, in response to questions that were put to you which were said to correctly reflect the method that had been used here, I am asking you whether you did or did not assume that Mr. Rhodes, in this case, knew the retirement experience of the company as to various classes of property? A. I made no assumption as to what Mr. Rhodes did. I did not testify as to Mr. Rhodes' methods. I knew that Mr. Rhodes did have knowledge of the retirement experience, that is quite evident in the statement he filed.

Q. In your comments upon observed depreciation, do I understand that you were not referring to Mr. Rhodes' testimony? A. I was speaking generally of observed depreciation studies.

Q. And you weren't referring specifically to the testimony in this case? A. That is correct.

Q. Now one other question.

—2848—

Mr. French, I believe, was the engineer who made the depreciation study, or determined the service lives of various classes of Hope's property? A. Yes, sir.

Q. Did you instruct him how to do it? A. Mr. French is not under my jurisdiction. I did have conversations with Mr. French, but I gave him no instructions.

Q. You gave him no instructions? A. That is right.

Q. Did you talk it over with him and explain fully your ideas about it, before he went to work? A. No, sir.

Q. You had talks with him about it before? A. I had talks with Mr. French toward the end of his studies, and I have had talks with Mr. French particularly since he prepared his exhibit.

Q. Had he arrived at any judgment as to lives of various classes of properties when you first talked to him?

A. Yes, he had.

Q. And were those the lives that he subsequently used?

A. Well, he may have made some changes, but he didn't make any changes as a result of my conversations, I am sure.

Q. Generally speaking, they were the lives you think he used? A. That is right.

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Q. Did you give him any directions at all, or discuss with him before he had completed his work, as to the things he should take into consideration in determining the service lives of those properties? A. I gave him no instructions. Toward the end of the investigation, I spent about a half an hour talking to Mr. French in the office of the Hope Natural Gas Company, and at that time we had some general discussion as to the determination of rates, but it was a general discussion only. I can't claim any contribution to Mr. French's study, Mr. Cockley.

Mr. Springer: Would it help you, Mr. Cockley, if I stated that the assignment for determining service lives was an engineering assignment to Mr. French from the division of Gas Engineering, headed by Mr. C. C. Brown; and that the service life determination was applied by men

under the direction of Mr. Smith in computing the depletion and depreciation reserve requirements.

By Mr. Cockley:

Q. Well, your testimony is that you did not discuss with Mr. French, prior to the time he substantially determined these service lives, the elements that he should take into consideration in determining service life, is that right?

A. That is correct.

Now, Mr. Cockley, it is quite possible that at some time or other I may have had some conversation with Mr.

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French generally about depreciation matters, but they were no more than conversations that I might have had with any other member of the Commission's staff on that subject.

I don't recall anything specific in regard to that. In other words, I have done a good deal of work on depreciation, a good deal of writing on depreciation, and some of the members of the staff of the Commission occasionally come around and consult me; but I recall nothing specific in that connection relating to Mr. French.

Q. And that same thing is true with reference to other engineers who worked on depreciation? A. That is correct.

Q. Including both the gasoline plant study of Mr. Soyster and anybody else in the engineering department who worked on depreciation? A. That is true. As a matter of fact, I don't believe I have ever met Mr. Soyster.

Mr. Cockley: That is all.

15. **COMPANY'S EXHIBIT NO. 108 ENTITLED: "Photostatic Copy of Certified Copy of the Records of the Board of Public Works of the State of West Virginia Showing the Valuation of the Company's Properties Fixed for Taxation Purposes for the Year 1941" (Not Admitted).**
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ASSESSMENT OF PUBLIC SERVICE CORPORATIONS—1941

The Board took up the consideration of the assessment of the properties of the public service corporations for the purposes of taxation for the year 1941, i.e. water, light and power companies, bridge companies, telegraph and telephone companies, oil and gas companies, express companies, private car line companies, steam railroad companies, street railway companies, bus lines and bus companies, and all other companies doing business in the State of West Virginia, and assessable by The Board of Public Works, and upon a thorough examination of the returns made by said companies, and upon a separate vote of The Board taken upon the valuation in the State of each property assessed, with the right of any member of this Board to have his vote recorded at the time on the assessment of any particular property fixed the valuations of the properties owned by said companies in the State of West Virginia, for the tax-paying year 1941, as hereinafter set forth, and apportioned the same to the counties in which said property is located, as follows:

COUNTY	CLASS No. 1	CLASS NOS.	TOTAL
	(Intangible Personal Property)	3 & 4 (All other Property)	

GAS, OIL AND PIPE LINE COMPANIES

Hope Natural Gas Company

Barbour	\$ 20,600	\$ 265,200
Boone	121,500	1,566,000
Braxton	39,600	510,600
Brooke	2,500	31,500
Calhoun	223,300	2,877,700
Clay	5,800	74,200
Doddridge	341,200	4,398,400
Gilmer	258,800	3,336,300
Harrison	1,142,500	14,725,600
Jackson	1,000	13,800
Kanawha	230,400	2,969,400
Lewis	622,300	8,020,300
Lincoln	4,600	59,800
Logan	2,300	29,700
Marion	214,600	2,766,500
Marshall	75,700	975,100
Mason	600	7,600
Mingo	100	1,100
Monongalia	61,600	794,400
Nicholas	17,100	220,500
Ohio	200	2,500
Pleasants	42,000	541,500
Preston	1,100	14,300
Putnam	400	4,500
Raleigh	300	3,400
Randolph	—	200
Ritchie	295,900	3,814,300
Roane	53,600	691,500
Taylor	11,200	144,000
Tyler	115,300	1,486,000

Upshur	3,500	45,600	
Wetzel	452,000	5,826,000	
Wood	134,200	1,728,600	
Wirt	4,200	54,000	
	<hr/>	<hr/>	<hr/>
	\$4,500,000	\$58,000,000	\$62,500,000

STATE OF WEST VIRGINIA,
 OFFICE OF THE SECRETARY OF STATE,
 CHARLESTON, SS:

I, Wm. S. O'Brien, Secretary of State and Ex-Officio Secretary of The Board of Public Works, do hereby certify that the foregoing is a true and correct copy of the records of The Board of Public Works as touching the valuation of the properties of the Hope Natural Gas Company in the State of West Virginia for the tax-paying year 1941.

Given under my hand and the Great Seal of the said State, at the City of Charleston, this 3rd day of July, 1941.

WM. S. O'BRIEN,

Secretary of State and Ex-officio Secretary of The Board of Public Works:

**16. COMPANY WITNESS BROWN'S EXHIBIT NO. 19
ENTITLED: "Rate of Return—Written Statement of
Percy W. Brown"**

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STATEMENT OF EXPERIENCE AND QUALIFICATIONS OF PERCY W. BROWN**1. Name, address and age**

Perty W. Brown, 1040 Union Commerce Building,
Cleveland, Ohio, age 53.

2. Education

Graduated from Harvard University in 1908 with degree of A. B.

3. Present position

General partner in the firm of Hornblower & Weeks, brokers and investment dealers, members of the New York, Chicago, Boston and Cleveland Stock Exchanges, and underwriters and distributors of industrial, public utility and railroad bonds and stocks. The firm maintains offices in nine cities: Boston, New York, Chicago, Cleveland, Detroit, Providence, Philadelphia, Portland and Bangor.

4. Experience

1909-1910 Bookkeeper in the Boston office of Hornblower & Weeks.

1910-1916 Assistant statistician with Hornblower & Weeks.

1916-1922 Chief statistician of Hornblower & Weeks.

1923 to date General partner of Hornblower & Weeks; for the past 10 years member of the Executive Committee of the firm and member of the Buying Committee.

Since March, 1924, resident partner in charge of the Cleveland office, and 1924-1930 partner in charge of a Pittsburgh office.

My duties with Hornblower & Weeks have included the constant examination and analysis of many securities, both bonds and stock, the examination of various corpora-

tions with a view to purchasing and selling at retail large blocks of their bonds and stocks based on personal in-

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vestigation and report to the other partners, the negotiation for the purchase of blocks of securities running into many millions and participation as a member of the firm in the purchase and sale of numerous security issues in very large amounts, both bonds and stocks, of industrial, utility and other companies.

Attached hereto as Schedule A is a list of the principal bond issues sold in 1938 and 1939 including generally only those issues of \$5,000,000 and over. Hornblower & Weeks participated as an underwriter in 35 of the issues there shown and as member of the selling group in 41 additional issues there shown, including the Lone Star Gas debentures and Oklahoma Natural Gas 3¾% bonds shown on Schedules D and E hereto attached. Hornblower & Weeks were also co-underwriters in the public offering in June, 1936, of the first mortgage bonds and the convertible debentures and were members of the selling group for the public offering of the common stock in September, 1936, of the El Paso Natural Gas Company, Schedule G hereto attached.

I am a member of the investment committee of four endowed institutions. I have served as a director in more than 15 corporations with assets ranging from \$3,000,000 to \$50,000,000. I have been employed a number of times to give testimony in valuation cases for large blocks of securities—bonds, preferred and common stocks, both listed and unlisted; and both widely distributed and closely held. I have participated in various reorganization plans of corporations with a view to readjustment of the capital structure or with a view to getting new capital from the public. I have given advice on the relative merits and investment values of securities to many hundreds of individual investors over a period of more than 29 years.

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WRITTEN STATEMENT OF PERCY W. BROWN**A. General Problem**

I have been asked by the Hope Natural Gas Company to give my opinion as to what is a fair rate of return to be earned by it on a fair valuation of its natural gas properties.

For this purpose I have examined the income figures and balance sheets of the Company for the past ten years and have studied other material and data as to the history, organization and nature of the business of the Company. I am generally familiar with the territories served by it and have made such study and investigation as seems to me necessary to form a judgment as to the fair rate of return to be earned by it.

In approaching this problem I have assumed that the Federal Power Commission will find the fair value of the natural gas properties of the Company and will allow its necessary operating expenses and charges, including reasonable allowances for depreciation and depletion.

The importance to the general public of an adequate rate of return for public utilities is sometimes overlooked. The interests of every citizen of every community are adversely affected if that community has not adequate and efficient public utility service. Starved utility enterprises are a real detriment in any community, affecting living conditions, business opportunities and property values, among other things.

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The construction and constant extension of efficient public utility enterprises must be financed by the permanent hiring of money, principally through the medium of bonds and stocks. This money comes in part from individual investors and in part through the savings of the public deposited in banks, paid as premiums to insurance companies

or contributions made to educational and philanthropic institutions.

Probably more than half of all our people have a vital interest in having their money hired to utilities at an adequate rate of return. All of them have a direct and vital interest in adequate and efficient utility service in their respective communities.

The problem of a fair rate of return therefore reduces itself to a decision as to the rate at which one large part of the public will be willing to hire its money to public utilities to enable them to serve another part of the public. To insure a steady flow of capital into the building and extension of public utility facilities the utilities must earn a rate of return that the investing public deems fair. If lower rates are prescribed by public authorities than the investing public deems fair they simply will not hire their money to public utilities. Deprived of this the utilities in the end will be unable efficiently to perform their function to the injury of everyone.

More specifically the problem reduces itself to one of what rate of earnings the Hope Natural Gas Company would have to enjoy at the present time on its natural gas

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properties to enable it to replace the money invested in them. This requires a consideration of those factors that the investing public would consider and the terms upon which it would hire its money to the Hope Company.

B. General Character Of The Hope Natural Gas Company's Business

Investors will only hire their money if they can receive a return commensurate with the risks and opportunities offered.

From the investors' viewpoint the natural gas business is probably the most hazardous of any of the public utilities. It sells a wasting asset. In the past many natu-

ral gas companies have come into existence and then passed out due to a failure of gas reserves. Throughout the Appalachian region gas reserves during the past 40 years have only been maintained by constant exploration and extension of the natural gas fields. The Hope Natural Gas Company itself has found it necessary constantly to extend its transmission system further and further south in West Virginia to bring into its lines either by production or purchase newly discovered fields. So far its business has not suffered appreciably from lack of adequate gas supplies but it is present in the minds of investors that this cannot always continue to be true.

Until recently the securities of manufactured gas companies have been favored by investors over those of natural gas companies for the very reason that the manufactured gas company, making the product it sells, is a much less hazardous undertaking than a natural gas enterprise. The recent change in the public attitude towards the securities of manufactured gas companies has been largely due to the discovery of large reserves of natural gas in

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the west and southwest, to the development of long distance transmission lines bringing this gas into what had theretofore been manufactured gas markets, and the low cost of natural gas in comparison with manufactured gas. One million British thermal units of energy can be purchased in the form of natural gas for a fraction of its cost in the form of manufactured gas. Thus recently a hazard not theretofore serious has been introduced into the manufactured gas business in some places due to the fear in the mind of the investing public that natural gas may supplant it.

The natural gas business, however, remains in the mind of the investor as an inherently hazardous enterprise.

Another hazard in the natural gas business is the fluctuation of revenues as a result of general business condi-

tions. Investors know that a large part of the natural gas produced in the United States is used for industrial purposes. In 1938 about 79% of all gas produced in the United States was so used and about 30% of the Hope Natural Gas Company's sales in that year was used for industrial purposes.

In industry natural gas is merely a fuel and in consequence is competitive with other fuels, principally coal and oil. Not only this but where natural gas wins out in this competition the annual sales for industrial use fluctuate from year to year with the rise and fall of general business activity.

While domestic sales fluctuate widely from month to month and indeed from day to day, the average domestic

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consumer tends to purchase about the same amount of gas each year, variations being caused largely by departure from average weather conditions. On an annual basis it is a fairly stable demand. Industrial sales, on the other hand, while they do not vary greatly from week to week, do increase in periods of industrial activity and decline in periods of industrial depression.

The investor, of course, is not interested in the day to day or weekly demands of either domestic consumers or industrial consumers. His interest is in the annual sales out of which he hopes the Company in which he invests will have net earnings with which to pay interest and dividends. Since the total sales of any natural gas company in a year will thus depend in part upon the degree of industrial activity, natural gas securities in the minds of the investors are associated with the risks of non-utility enterprises. If Hope were able economically to sell gas only for domestic consumption it would be regarded by the investing public as a more stable and less speculative enterprise than it now is.

This difference is well illustrated by a comparison of the revenues of the Bell Telephone system and those of the Western Union Telegraph system. The telephone revenues over a long period of years have been remarkably constant due to the fact that so large a part of this business is dependent upon residence subscribers. The revenues of the Western Union Telegraph system, on the other hand, have paralleled more nearly those of manufacturing corporations and its securities are generally regarded by investors as highly speculative.

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A third factor, which would bear directly on the investor's attitude towards the Hope Natural Gas Company is the fact that natural gas production in the Appalachian field has shown no growth in the last 20 years and apparently has passed the peak. The tremendous recent growth in the production of natural gas in this country has been largely in the southwest and west. In 1906, Pennsylvania and West Virginia accounted for about 67% of the total national production, whereas in 1937, those two states accounted for only 11% of the total. California, Louisiana, Oklahoma and Texas, which together produced only a little over 1% in 1906, in 1937 accounted for about 75%. The extension of pipe lines from southern fields to densely populated areas, such as Detroit and Chicago, has been notable. That the trend in natural gas production in the Appalachian field is not upward is shown by the following table (from Moody's Manual of Public Utilities, 1939), in millions of cubic feet:

	United States	W. Virginia	Penna.	Ohio	Kentucky
1915	628,000	244,000	113,000	79,000	1,000
1920	798,000	239,000	125,000	58,000	3,000
1925	1,188,000	180,000	101,000	43,000	10,000
1930	1,943,000	144,000	88,000	63,000	28,000
1935	1,916,000	115,000	94,000	49,000	39,000
1937	2,447,000	149,000	115,000	42,000	55,000

From an investor's viewpoint the Hope Natural Gas Company does not have possibilities of growth and therefore its securities would be less attractive than, for example, the securities of El Paso Natural Gas Company which has, through expansion of its properties, shown a substantial increase in both gross and net earnings during the past several years. This is well illustrated by the following table which shows gross revenue and net earnings after depreciation per books (million \$):

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	Hope		El Paso	
	(from natural gas business)			
	Gross Revenue	Net	Gross Revenue	Net
1929	22.0	3.0		
1930	19.9	1.0		
1931	18.0	0.6	1.2	(Not available)
1932	14.2	0.9 (deficit)	1.5	0.28
1933	14.1	0.3	1.3	0.33
1934	16.0	0.9	1.3	0.19
1935	17.0	2.1	1.3	0.25
1936	20.1	3.4	2.0	0.33
1937	20.4	1.9	2.3	0.42
1938	16.9	0.5	3.2	1.07
1939	(Not available)		4.6	1.89
			4.9	2.08
			5.8	2.35

Further details of El Paso Natural Gas Company are shown in Schedule G.

These fluctuations in revenues plus the declining trend of production in West Virginia plus the fact that for a few days in 1940 many industrial consumers dependent on the Hope Natural Gas Company for a supply were curtailed to conserve the supply for domestic users indicate to the investor declining rather than increasing sales for the Hope Natural Gas Company over any considerable future period.

As a practical matter the net earnings of the Hope Natural Gas Company from the natural gas business during recent years, as shown by its books, would prove a substantial obstacle in any refinancing of its properties. Unless earnings increased and stabilized, it would be difficult to sell common shares to the public except at a high yield. However, in approaching the problem of fixing a

fair and reasonable rate of return, I have assumed that the Commission will permit the Company a volume of net earnings from its natural gas business sufficient to support a sound capital structure equivalent to the fair valuation of its natural gas properties.

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An investor would, of course, give consideration to the fact that the markets in which the Hope Natural Gas Company's product is distributed is in a thickly populated, well developed and growing industrial section of the country. This insures a continuous market for both domestic and industrial uses probably as long as adequate service can be maintained. This background of continued population and business growth in the minds of the investors would tend to give confidence in the Company's position and stability.

To some small extent an investor would take into account (and I have taken into account in the conclusions set forth) the fact that the Hope Company is a subsidiary of Standard Oil Company (New Jersey), a company which for many years has enjoyed the highest reputation from the standpoint of management, quality of production, and general efficiency of operation. In each of the plans for replacing the capital invested in these natural gas properties I have assumed that the parent company would retain a sufficient part of the equity securities to preserve working control and continue responsibility for the management of the properties.

C. Present Security Market Conditions

Since the matter under consideration is the fair rate of return at the present time, a brief consideration of market conditions during the past several years is appropriate. During that time we have witnessed an unprecedented low-yield money market, which has been due, in large measure, to a combination of circumstances which in-

cludes the large influx of gold, the excessive bank reserves,

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the low rate of building construction and other factors. The following table shows the average yield of 40 public utility bonds (taken from Moody's Bond Survey) classified as to Moody ratings of quality.

	1938		1939	
	High	Low	High	Low
40 bonds (average)	4.23%	3.61%	3.76%	3.37%
Aaa	3.15	2.90	3.22	2.79
Aa	3.47	3.07	3.39	2.91
A	4.17	3.71	3.80	3.36
Baa	6.24	4.73	4.74	4.35

How long this low-yield market for bonds of various qualities, high and medium grade, will continue cannot be forecasted, but it is my judgment that eventually the yields on higher grade bonds will return to a normal level around 4%, and bonds rated at medium grade will find a level around 5%. This opinion is based on the reasonable expectation that natural and normal forces will eventually prevail over any artificial or temporary forces or situations.

However, the conclusions which follow are not based upon the assumption that more normal money yields will soon prevail, but take into consideration the situation as it exists, and as it has existed for the past two years.

In general, it may be said that except for a few weeks in the second half of 1939, when the approaching European crisis, the declaration of war, and the uncertainty following it, affected the markets for new securities, for the past two years the market for new security flotations of the higher grade bonds and investment quality preferred stocks was reasonably good. The market for equities (common stocks) has been a highly selective one.

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According to the Commercial & Financial Chronicle (January 6, 1940) the domestic corporate issues floated were as follows:

	<u>Bonds & Notes</u>	<u>Preferred Stock</u>	<u>Common Stock</u>	<u>Total</u>
1936	\$4,026,041,600	\$270,840,364	\$282,063,717	\$4,578,945,681
1937	1,673,283,500	468,395,208	292,013,451	2,433,692,159
1938	2,042,783,895	78,560,510	17,837,784	2,139,182,189
1939	1,870,622,000	161,058,178	67,692,867	2,099,373,045

Security sales for new capital during 1939 were 17.4% of the total as against 40.8% in 1938 and the balance was for refunding purposes. During 1939 there were 128 issues involving \$717,836,500 placed privately with institutional investors. The larger public utility issues sold during 1938 and 1939 appear on Schedule A.

D. A Fair Rate Of Return For The Hope Natural Gas Company Is Not Less Than 8%

Considering all the factors, the principal of which have previously been stated, it is my opinion that investors would not at the present time provide the capital for the natural gas business of the Hope Natural Gas Company unless it was allowed and was earning at least 8% upon whatever is determined to be the fair value of its natural gas properties.

I have tested this opinion by considering various possible capital structures that might be set up for the Company and the earnings that would be necessary to service the securities of such capital structures with a reasonable provision for surplus. They are as follows:

1. Refinancing on the basis of 100% common stock issue

The Hope Natural Gas Company is primarily a producer, purchaser from producers and exporter of natural gas. All the companies to which it sells have other sources

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from which a part of their supplies are procured. Its business is therefore more speculative than that of any of the distributing companies to which it sells. Investors would

consider it to be in much the same category as a mining industrial enterprise for which the appropriate financial structure is all common stock.

The company bearing the closest similarity to the Hope Natural Gas Company is the National Fuel Gas Company which operates in the same general part of the country and has generally corresponding risks and uncertainties. (See Schedule B). National Fuel Gas Company has but one class of securities, namely no par common stock. This is also true of Interstate Natural Gas Company (Schedule C). The organizers of the Hope Natural Gas Company recognized this as the appropriate financial structure for Hope which has only common stock outstanding.

The advantages of having a capital structure of all common stock for a mining enterprise is that the Company is relieved of fixed obligations. In bad years it will have no defaults and its directors are less likely to pass or reduce dividends in such a period. Directors of such a company with no fixed obligations may safely pay up to 80% of its earnings each year in dividends, carrying the remainder to surplus.

If Hope Natural Gas Company were refinanced on the basis of 100% common stock this could not be sold to the public on the basis of a yield of less than 6½%. An underwriting syndicate to distribute this common stock to the public would be necessary. Assuming the stock to be sold

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to the public at par, the underwriting syndicate would purchase such an issue at a price not greater than 96, or 4 points less than the selling price to the public.

Assuming such a refinancing the resulting capital structure, the net cost of this issue to the Company and the return which the Company would have to earn on each \$100 of value for which the common shares were issued would therefore be as follows:

Dividend 6.50% plus 4 points	6.770%
Surplus	1.692
	<hr/>
	8.462%

On this basis the Company would have to earn \$8.46 per year on each \$100 fair value of its property in order to maintain a 6½% dividend and make a reasonable provision for surplus. Unless earnings permitted such a provision to be made for surplus the common stock could not be sold on a 6½% basis. Paying this dividend it would be required to distribute 80% of its net earnings.

For yields expected by investors in common stocks of natural gas companies see Schedules B, C, D, E and G.

2. Refinancing on a basis of 40% preferred and 60% common stock

It is possible that a part of the capital requirements of the Hope Natural Gas Company could be raised by an issue of preferred stock under conditions now prevailing. If so, such a preferred stock issue could not be sold to advantage if it represented more than 40% of the total capital requirements. It might be possible at the present time to attract the public to such an issue of preferred stock, at par, yielding the investor 5½%. The balance of the capital requirements, or 60%, would be raised by the sale of common stock. In view, however, of the fact that

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this common stock would be junior to 40% of preferred stock it would be necessary to sell the common stock at a yield to the investor of not less than 7%. Assuming these securities to be sold to the public at par the underwriting syndicate necessary for their distribution would purchase at prices of not more than 97 for the preferred stock and not more than 96 for the common stock.

The resulting capital structure, the net cost of these issues to the Company and the return which the Company

would have to earn on each \$100 of value would therefore be as follows:

	Per cent of capital	Net dividend cost to the Company	Per cent of earnings on each \$100 fair value required to service the securities
5½% Preferred stock	40%	5.670%	2.268%
7% Common Stock	60	7.291	4.374
Surplus			1.458
Total return required			8.100%

It will be observed that this capital structure requires the Company to earn \$8.10 annually on each \$100 fair value of its property. Such earnings would provide a coverage for the preferred stock dividend of about 3½ to 1, which coverage would certainly be necessary to enable the underwriters to sell a 5½% preferred stock at par. The common stock dividend would be earned 1⅓ times and this coverage is necessary to enable the 7% common stock to be sold at par. The provision for surplus is as low as can reasonably be made in view of the necessity for allowing for fluctuations in earnings due to business conditions or to rising costs, wages, materials, etc. Such provision also conforms to the sound business principle that ¾ of the net

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earnings available for common stock dividends is the maximum that should be paid out on such a stock where it is junior to a preferred stock.

For yields expected by investors in preferred stocks of natural gas companies see Schedules E, F and G.

3. *Refinancing on basis of 30% bonds and 70% common stock*

Both the capital structures heretofore considered are sounder from a business point of view than one involving the issuance of bonds. With only common stock, there is no danger that failure to earn bond interest during periods of adversity will result in foreclosure or receivership and

substantial impairment or loss of the equity in the property. With a senior security consisting of preferred stock the situation is not as ideal, since accruing unpaid preferred dividends create rights which may affect the company's finances and ability to secure additional capital for many years. Nevertheless, the preferred dividends can be omitted during adverse times without endangering the enterprise as a whole. For these and other reasons, financing in part through a bond issue is not a desirable procedure, particularly for a company such as the one under consideration.

Nevertheless it is probable that at the present time some part of the capital requirements of this Company could be raised through the sale of bonds. As a final test I have therefore assumed a capital structure which includes bonds. If these bonds are to be sold to yield a low return to the investor they must, of course, be well secured and the interest on them must be earned many times over. In my

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opinion on property of this nature 30% of bonds is as large a part of the capital as can be raised by their sale, the balance, or 70%, to be raised from the sale of common stock.

In my opinion an issue of 15-year first mortgage bonds of the Hope Natural Gas Company, secured by all its natural gas property, would rate not higher than Baa, Moody's Rating. At best it would be a medium grade bond. In view of all the factors previously outlined these bonds would bear a coupon rate of not less than 4%. The remainder of the capital would be raised through the sale of 7% common stock. Assuming the price of these securities to the public to be par, the underwriting syndicate would purchase the bonds at a price of not more than 98, which would give it a 2 point spread or \$20 per \$1,000 on the bonds, and the common stock at a price of not more than 96, which allows a 4 point spread.

The resulting capital structure, the net cost of these issues to the Company and the return which the Company would have to earn on each \$100 of value of its property would therefore be as follows:

	Per cent of Capital	Net interest and dividend cost to the Company	Per cent of earnings on each \$100 fair value required to service the securities
4% Mortgage bonds	30%	4.181%	1.254%
7% Common stock	70	7.291	5.103
Surplus			1.701
Total return required			8.058%

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Even by running the risks of fixed charges and procuring the lower cost money represented by 4% bonds it will be seen that in order to refinance its property the Company would need to earn a little more than \$8 on each \$100 of fair value. The interest on the bonds would be earned more than 6 times which is necessary to make them marketable at the prices fixed. The dividends on the common stock would be earned $11\frac{1}{3}$ times which is necessary to its sale. Here again the Company would be paying out either in interest or dividends almost 80% of its net earnings, which is slightly more than a company with outstanding bonds should distribute.

For return expected by investors in the bonds of natural gas companies see Schedules E, F, G, H, I and J.

E. Summary

Having tested the rate of return by three possible capital structures we find that these vary from 8.46% return to 8.06% return. All of them indicate a return of above 8% as necessary to this enterprise. It is my opinion that securities to refinance these natural gas properties could not be sold if the return were less than 8% and that the fair rate of return for the natural gas properties of the Hope Natural Gas Company at the present time is not less than 8%.

SIGNED at Cleveland, Ohio, this April 29, 1940.

PERCY W. BROWN

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BONDS ISSUED IN 1938 AND 1939

JANUARY 8, 1940

Offered	Ratings		Millions	Issue	Original Offering Price	Approx.	Yield to Maturity
	Moody	Standard				Market Jan. 8, 1940	
Feb 2, 38	A	A	57	Appalachian Elec. Power 1st, 4, 1963	98 1/2	x111 1/2	3.30%
Feb 2, 38	Baa	B1 +	10	Appalachian Elec. Power Deb. 4 1/2, 1948	100 1/2	x107 1/2	3.55
Nov 3, 38	A	A	25	Argentine Republic 4 1/2, 1948	95 1/2	* 94 1/2	5.31
Sep 15, 38	A	A1	25	Atlantic Refining Deb. 3, 1953	99	*106	2.47
Jun 27, 39	A	A	25	Bethlehem Steel Mtge. 3 1/2, 1959	99	*100 1/2	3.22
Nov 27, 38	Aa	A1 +	40	Canada (Dominion of) 3, 1968	97 1/2	* 88 1/2	3.65
Oct 24, 38	B	B	2.5	Carrier Corp. Conv. Deb. 4 1/2, 1948	100	89 1/2	6.01
Jun 20, 39	Baa	B1 +	14.7	Central Illinois Elec. & Gas 3 1/2, 1964	100 1/2	100	3.75
Dec 8, 38	A	A	38	Central Illinois P. S. 1st 3 1/2, 1968	100 1/2	103 1/2	3.54
Dec 8, 38	Ba	B1	10	Central Illinois P. S. Deb. 3 1/2-4, 1939/48	Var.	101a	3.86a
Aug 17, 39	Baa	B1 +	25	Central Power & Light 3 1/2, 1969	101	101 1/2	3.65
Aug 17, 39	Ba	B1	7	Central Power & Light 1 1/2-3, 1940/6	Var.	99a	3.15a
Mar 28, 38	Ba	B1 +	5.5	Champion Paper & Fibre 4 1/2, 1950	99 1/2	*102 1/2	4.46
Dec 12, 38	Aa	A1	30	Chesapeake & Ohio Ry. 3 1/2, 1963	101 1/2	*106	3.14
Jun 1, 38	A	A	42	Commonwealth Edison, Cv. 3 1/2, 1958	100s	*127 1/2	1.80
Jun 1, 38	Aa	A1	33	Commonwealth Edison 1st 3 1/2, 1968	102 1/2	*110	2.97
Aug 25, 38	Aa	A1	33	Commonwealth Edison 1st 3 1/2, 1968	103 1/2	*110	2.97
Sep 2, 33	A	A	39	Commonwealth Edison, Cv. 3 1/2, 1958	100s	*127 1/2	1.80
Mar 10, 39	Baa	A	6.6	Community Public Service 1st 4, 1964	100	104 1/2	3.71
Jan 13, 38	Aa	A1	30	Consolidated Edison, N. Y. 3 1/2, 1958	101 1/2	*108 1/2	2.92
Apr 21, 38	Aa	A1	60	Consolidated Edison, N. Y. 3 1/2, 1948	101 1/2	*107	2.63
Jun 8, 39	Aaa	A1 +	7	Consolidated Gas Baltimore 3, 1969	105	x108	2.62
Dec 23, 38	Aa	A1	10.1	Consumers Power Co. 1st 3 1/2, 1966	104 1/2	*106 1/2	2.90
Jan 19, 38	Aa	A1	9	Consumers Power Co. 1st 3 1/2, 1967	102	*108 1/2	3.03
Dec 2, 38	Baa	A1	21	Continental Oil Co. Cv. 2 1/2, 1948	100s	*108 1/2	1.70
Jul 7, 38	Ba	B1 +	10	Crown Cork & Seal, Deb. 4 1/2, 1948	99	*103	4.10
Aug 24, 38	Baa	B1 +	10	Crucible Steel Co. Deb. 4 1/2, 1948	99 1/2	*103 1/2	4.03
Mar 30, 38	Aa	A1	28	Duluth, Missabe & I. R. Ry. 3 1/2, 1962	98	*106 1/2	3.08
Sep 18, 39	B	B1	1.6	Durez Plastics & Chemicals 4 1/2, 1949	100	106 1/2	3.75
Oct 26, 38	A	A	50	Firestone Tire & Rubber 3 1/2, 1948	99 1/2	*106	2.73
Apr 24, 39	Baa	A	52.5	Gatineau Power 1st A, 3 1/2, 1969	98 1/2	89	4.41
Jun 28, 39	A	A	27.3	Gulf States Utilities 1st 3 1/2, 1969	106 1/2	*108 1/2	3.07
Jun 6, 39	Ba	B1	10	Houston Oil Co. Deb. 4 1/2, 1954	100	* 98	4.42
Aug 5, 38	A	A	32	Indianapolis Power & Lt. 3 1/2, 1968	100	x109 1/2	3.25
Jul 20, 38	Ba	B1 +	7.5	Industrial Rayon Corp. 1st 4 1/2, 1948	99	*102 1/2	4.16
Dec 5, 39	Ba	B	5.9	Inspiration Cons. Copper Cv. 4, 1952	100s	100	4.00
Aug 8, 39	Baa	B1 +	14.2	Iowa Public Service 3 1/2, 1969	101	101 1/2	3.67
Jul 14, 39	Baa	B1 +	5	Kansas Power Co. 1st 4, 1964	101 1/2	101 1/2	3.88
Jul 26, 39	Aa	A1	26.5	Kansas Power & Light 3 1/2, 1969	108 1/2	111 1/2	2.93
Aug 25, 38	A	A1	20	Lone Star Gas Deb. 3 1/2, 1953	102	*108 1/2	2.77
Dec 29, 39	A	A	30	Louisville & Nashville Coll. 3 1/2, 1950	101	101 1/2	3.33
Dec 29, 39	A	A	30	Louisville & Nashville Coll. 4, 1960	100 1/2	102 1/2	3.81
Oct 6, 38	A	A	34	Michigan Cons. Gas 1st 4, 1963	97 1/2	*101 1/2	3.89
May 23, 39	Baa	B1 +	9	Montana Dakota Utilities 4 1/2, 1954	101	107 1/2	3.86
Jun 9, 38	Aa	A1 +	30	Mountain States Tel. & Tel. 3 1/2, 1968	102	*108 1/2	2.83
Mar 21, 39	Baa	B1 +	22.5	National Distillers Cv. Deb. 3 1/2, 1949	100 1/2	*104 1/2	3.00
Apr 25, 39	A	A1	50	National Steel 1st Coll. 3, 1965	99	*102 1/2	2.85
Jun 28, 39	A	A	13	N. Y. State Elec. & Gas 3 1/2, 1964	102	105 1/2	3.41
Aug 12, 38	Aa	A1	27.9	N. Y. Steam Corp. 1st 3 1/2, 1963	100	*105 1/2	3.18
Feb 1, 39	A	A	20	North American Co. Deb. 3 1/2, 1949	101 1/2	*106	2.80
Feb 1, 39	A	A	25	North American Co. Deb. 3 1/2, 1954	101	*106	3.23
Feb 1, 39	A	A	25	North American Co. Deb. 4, 1959	101 1/2	*107 1/2	3.47
Dec 14, 39	Baa	B1 +	45	Northern Ind. Pub. Svc. 1st 3 1/2, 1969	100	100	3.75
Mar 22, 38	Aa	A1	17.5	Northern States Pwr. (Wis.) 1st 3 1/2, 1964	106	111	2.88
Oct 20, 38	Aa	A1	55	Ohio Power Co. 1st 3 1/2, 1968	101 1/2	x108	2.84
Aug 17, 39	Baa	B1 +	17	Oklahoma Nat. Gas 3 1/2, 1955	103 1/2	x107 1/2	3.15
Aug 9, 39	A	A	95	Penn. Power & Lt. 1st 3 1/2, 1969	105 1/2	*108 1/2	3.05
Aug 9, 39	Baa	B1 +	28.5	Penn. Power & Lt. Deb. 4 1/2, 1974	104	*108 1/2	4.03
Dec 20, 39	A	A1	10.9	Penn. Water & Power Coll. 3 1/2, 1964	104	105 1/2	2.94
Aug 19, 38	Aa	A1	25	Phillips Petroleum Cv. 3, 1948	100s	*111	1.73

Jun. 28, 39	A	A	27.3	Gulf States Utilities 1st 3½, 1969	106½	*108½	3.07
Jun. 6, 39	Ba	Bl	10	Houston Oil Co. Deb. 4¼, 1954	100	*98	4.42
Aug. 5, 38	A	A	32	Indianapolis Power & Lt. 3¼, 1968	100	*109½	3.25
Jul. 20, 38	Ba	Bl +	7.5	Industrial Rayon Corp. 1st 4¼, 1948	99	*102½	4.16
Dec. 5, 39	Ba	B	5.9	Inspiration Cons. Copper Cv. 4, 1952	100s	100	4.00
Aug. 8, 39	Baa	Bl +	14.2	Iowa Public Service 3¼, 1969	101	101½	3.67
Jul. 14, 39	Baa	Bl +	5	Kansas Power Co. 1st 4, 1964	101½	101½	3.88
Jul. 26, 39	Aa	Al	26.5	Kansas Power & Light 3¼, 1969	108½	111½	2.93
Aug. 25, 38	A	Al	20	Lone Star Gas Deb. 3¼, 1953	102	*108½	2.77
Dec. 29, 39	A	A	30	Louisville & Nashville Coll. 3¼, 1950	101	101½	3.33
Dec. 29, 39	A	A	30	Louisville & Nashville Coll. 4, 1960	100½	102½	3.81
Oct. 6, 38	A	A	34	Michigan Cons. Gas 1st 4, 1963	97½	*101½	3.89
May 23, 39	Baa	Bl +	9	Montana Dakota Utilities 4¼, 1954	101	107½	3.86
Jun. 9, 38	Aa	Al +	30	Mountain States Tel. & Tel. 3¼, 1968	102	*108½	2.83
Mar. 21, 39	Baa	Bl +	22.5	National Distillers Cv. Deb. 3¼, 1949	100½	*104½	3.00
Apr. 25, 39	A	Al	50	National Steel 1st Coll. 3, 1965	99	*102½	2.85
Jun. 28, 39	A	A	13	N. Y. State Elec. & Gas 3¼, 1964	102	105½	3.41
Aug. 12, 38	Aa	Al	27.9	N. Y. Steam Corp. 1st 3¼, 1963	100	*105½	3.18
Feb. 1, 39	A	A	20	North American Co. Deb. 3¼, 1949	101½	*106	2.80
Feb. 1, 39	A	A	25	North American Co. Deb. 3¼, 1954	101	*106	3.23
Feb. 1, 39	A	A	25	North American Co. Deb. 4, 1959	101½	*107½	3.47
Dec. 14, 39	Baa	Bl +	45	Northern Ind. Pub. Svc. 1st 3¼, 1969	100	100	3.75
Mar. 22, 38	Aa	Al	17.5	Northern States Pwr. (Wis.) 1st 3¼, 1964	106	111	2.88
Oct. 20, 38	Aa	Al	55	Ohio Power Co. 1st 3¼, 1968	101½	108	2.84
Aug. 17, 39	Baa	Bl +	17	Oklahoma Nat. Gas 3¼, 1955	103½	*107½	3.15
Aug. 9, 39	A	A	95	Penn. Power & Lt. 1st 3¼, 1969	105½	*108½	3.05
Aug. 9, 39	Baa	Bl +	28.5	Penn. Power & Lt. Deb. 4¼, 1974	104	*108½	4.03
Dec. 20, 39	A	Al	10.9	Penn. Water & Power Coll. 3¼, 1964	104	105½	2.94
Aug. 19, 38	Aa	Al	25	Phillips Petroleum Cv. 3, 1948	100s	*111	1.73
Nov. 27, 39	A	A	40	Public Service Colorado 1st 3¼, 1964	102	104½	3.22
Nov. 27, 39	Baa	Bl +	12.5	Public Service Colorado Deb. 4, 1949	102	106½	3.26
Oct. 19, 38	Aa	Al	80	Public Service Co. No. Ill. 3¼, 1968	103	*109	3.02
Aug. 11, 38	Aaa	Al +	10	Public Service Elec. & Gas 3¼, 1968	104½	*111½	2.69
Dec. 7, 39	Baa	Bl +	38	Public Svc. Indiana 1st 4, 1969	102	102	3.89
Dec. 7, 39	Ba	Bl	10	Public Svc. Indiana Deb. 3¼, 1940/49	97½a	97½a	4.20a
Dec. 22, 38	Aaa	Al +	16	Railway Express Agency 3/8-2¼, 1948	100	104½	1.95a
Jun. 21, 39	Aa	Al	8.3	Rochester Gas & Elec. 3¼, 1969	105½	*107½	2.88
May 26, 38	A	A	16.5	San Antonio Pub. Svc., 4, 1963	99	*107½	3.52
Jul. 19, 39	Aa	Al	85	Shell Union Oil Corp. 2¼, 1954	97½	*95½	2.85
Jun. 28, 39	Aaa	Al +	50	Socony Vacuum Oil 3, 1964	104	*105½	2.73
Jul. 20, 39	Aa	Al +	25	Southern Bell Tel. & Tel. 3, 1979	107½	*105	2.78
Jul. 14, 38	Aaa	Al +	30	Southwestern Bell Tel., 3, 1968	100	*107½	2.62
Dec. 21, 39	Baa	A	6.7	Southwestern Lt. & Pw. 1st 3¼, 1969	102	103½	3.56
Jul. 7, 38	Aaa	Al +	50	Standard Oil Co., N. J., 2¼, 1953	99	*105	2.32
Jul. 7, 38	Aaa	Al +	35	Std. Oil Co., N. J., 1¼-2¼, 1943/47	100	103a	2.08a
Aug. 16, 39	A	A	7	Term. R. R. St. Louis 3¼, 1974	102 6	98½	3.43
Apr. 12, 39	Aaa	Al +	40	Texas Corp. Deb. 3, 1959	101	*105½	2.67
Aug. 10, 38	Aa	Al	30	Toledo Edison Co. 1st 3¼, 1968	101½	108½	3.07
Aug. 10, 38	Baa	Bl +	6.5	Toledo Edison Co. Deb. 4, 1948	100½	104½	3.41
Aug. 15, 39	A	Al	30	Union Oil California 3, 1959	103	*102½	2.85
Jun. 2, 38	A	Al	100	U. S. Steel Corp. Deb. 3¼, 1948	100	*106	2.50
Oct. 5, 38	Aa	Al	37.5	Virginia Elec. & Power 3¼, 1968	103½	*110	2.97
Jun. 28, 39	A	Al	22	Washington Water Power 3¼, 1964	105	108	3.03
Jun. 6, 39	A	Bl +	18	West Texas Utilities 1st 3¼, 1969	101½	104	3.52
Dec. 5, 39	A	A	8	West Va. Pulp & Paper 1st 3, 1954	99	99½	3.04
Oct. 25, 38	Aa	Al	55	Wisconsin Electric Power 3¼, 1968	103½	*109	3.02
Sep. 8, 38	Baa	Bl +	30	Youngstown Sheet & Tube Cv. 4, 1948	100	*109½	2.82

* Traded N. Y. Stock Exchange. x Traded N. Y. Curb. s Offered to Stockholders. a Longest Maturity.

We have participated in the distribution of most of these issues and will furnish on request more detailed information and prospectus on any of them which you may be interested in buying or selling. This list is not to be construed as an offering which is made by the Prospectus only.

CURRENT AVERAGE BOND YIELDS

The following are the ratings of three well known Investors' Services and their description of them. These ratings are intended to indicate the relative investment quality in bonds. The average yields shown are derived from recent prices of over one hundred representative issues.

	Standard	Fitch	Utility	Industrial	Railroad	Average	Moody
Al +	Highest Grade	AAA	Maximum Safety	2 74%	2 51%	2 87%	Aaa
Al	High Grade	AA	Very High Grade	2 91	2 80	3 08	Aa
A	Sound	A	High Grade	3 44	3 51	3 79	A
Bl +	Good	BBB	Good Grade	4 38	4 21	4 80	Baa

—Explanation of Moody's Ratings will be forwarded on request.

The statistics in this circular are obtained from sources which we believe to be accurate. We do not own or offer any of these securities.

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Schedule B

NATIONAL FUEL GAS COMPANY

A holding company controlling natural gas producing, transmission and distribution properties in a well-developed area in Pennsylvania, New York, eastern Ohio and Ontario, including Buffalo and Jamestown, N. Y. Industrial sales are less than 15% of total, and about 40% of combined manufactured and natural gas requirements is purchased. Rockefeller Foundation owns 22% of common and other large holdings are identified with Rockefeller interests.

Capital Stock: 3,810,183 shares (no par).

Income statistics (Million \$)

	<u>Gross Revenue</u>	<u>Net Revenue</u>	<u>Earnings Per Share</u>
1934	15.80	4.78	1.26
1935	15.75	3.81	1.00
1936	14.71	4.54	1.19
1937	13.86	3.66	0.96
1938	13.19	3.21	0.83
1939	13.65	3.63	0.95

Has been paying \$1 dividends on common which rate while not fully earned in 1937, 1938 and 1939, the management has indicated a willingness to continue for a considerable period of time. The Company has a very strong cash position with net working capital on Dec. 31, 1939 of \$11,229,000 including cash items of \$10,280,000. The average price for the stock during the past two years has been 12 to 13 at which figure the yield is approximately 8%.

On February 15, 1940 an investment banking firm announced the sale of a block of 15,670 common shares at \$12.50 per share to yield 8%.

Schedule C

INTERSTATE NATURAL GAS CO., INC.

Produces and sells at wholesale. Owns 54,000 acres in the Monroe (Louisiana) field and 170 miles of 22-inch main pipe line together with compressor stations and field lines. The pipe line extends to Baton Rouge. Standard Oil owns 53.97% of the stock. Other stock interests include Rockefeller Foundation and Columbian Carbon Co.

Capital Stock: 952,953 shares (no par).

Income Statistics (Million \$)

	<u>Gross Revenue</u>	<u>Net</u>	<u>Earnings Per Share</u>	<u>Dividend Per Share</u>
1936	5.2	1.7	1.82	1.75
1937	5.8	2.3	2.50	2.60
1938	5.5	2.0	2.13	1.75
1939	—	—	—	2.00

	<u>Price Range</u>	<u>Average Price</u>	<u>Dividend Yield</u>
1936	33—20½	26¾	6.54%
1937	33½—17	25¼	10.29%
1938	25—17½	21¼	8.23%
1939	27—22	24½	8.16%

Schedule D

LONE STAR GAS CORP.

Through subsidiaries, this company produces, purchases, transmits and distributes natural gas chiefly in Texas with extensions in Oklahoma. A subsidiary also operates in Council Bluffs, Iowa, and the company has a 30% interest in a pipe line to Minneapolis. Natural gas reserves are substantial.

Debt and Capital Issues

3½% Convertible Debentures	\$20,000,000
Bank loans	8,750,000
Common (no par)	5,529,747 shares

Income Statistics (Million \$)

	<u>Gross Revenue</u>	<u>Net</u>	<u>Earnings Per Share</u>
1934	16.3	4.1	\$0.59
1935	17.6	5.1	0.77
1936	20.1	6.2	0.97
1937	21.0	6.8	1.14
1938	19.5	5.3	0.88

	<u>Common Price Range</u>	<u>Average Price*</u>	<u>Dividend</u>	<u>Dividend Yield</u>
1934	8¾ — 4¼	6.31		
1935	10¾ — 4½	7.69	\$0.30	3.89%
1936	14¼ — 9¾	12.06	0.60	4.98%
1937	14¼ — 5¼	9.75	0.60	6.15%
1938	10¾ — 6¾	8.50	0.60	7.05%
1939	10¼ — 7¾	8.81	0.70	7.95%

* In convertible preferred stock.

Schedule E

OKLAHOMA NATURAL GAS CO.

Primarily a distributing company purchasing most of its gas under long-term contracts and serving eastern Oklahoma, including Tulsa and Oklahoma City. The load is chiefly (77%) residential and commercial.

Debt and Capital Issues

First 3 $\frac{3}{4}$ %-1955	\$17,000,000
Bank loans	8,000,000
\$5.50 Cumulative Convertible Preferred	5,800,000
\$3 Cumulative Preferred (\$50 par)	4,552,500
Common (\$15 par)	549,986 shares

Income Statistics (Million \$)

	Gross Revenue	Net for Dividends	\$5.50 Pref.*	\$3 Cum. Pref.*	Common*
1934	6.58	0.3	—	3.41	0.07
1935	6.92	0.6	—	6.36	0.58
1936	7.57	0.9	#41.89	8.78	0.95
1937	8.13	1.6	#71.10	15.91	2.13
1938	7.96	1.4	#64.26	14.23	1.86
1939	8.29	1.6	27.94	14.30	1.87

* per share.

based on 6% Prior Preferred which was redeemed October, 1939.

No common dividends until 1939—now paying \$1.

\$16,814,000 4 $\frac{1}{2}$ %s-1951 were sold in June 1936 at 98 $\frac{1}{2}$ and were refunded in 1939 by the first 3 $\frac{3}{4}$ %s-1955.

The 5 $\frac{1}{2}$ % convertible preferred was sold in October, 1936 at 100.

In 1939 the net earnings available for interest charges on the 3 $\frac{3}{4}$ %s-1955 were over 5 times requirements.

Price Ranges

	1939	1938
4 $\frac{1}{2}$ % Bonds 1951	106 $\frac{1}{4}$ -104 $\frac{3}{4}$	106 -96
3 $\frac{3}{4}$ % Bonds 1955	107 $\frac{3}{4}$ -103 $\frac{3}{4}$	—
5 $\frac{1}{2}$ % Conv. Preferred	113 -106	105 $\frac{3}{4}$ -89
\$3 Preferred	49 - 35	41 $\frac{1}{2}$ -21 $\frac{1}{2}$
— Common	19 $\frac{1}{4}$ - 8 $\frac{3}{4}$	14 $\frac{1}{4}$ - 6 $\frac{3}{4}$

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Schedule F

COLUMBIA GAS & ELECTRIC CORP.

A leading natural gas system serving through subsidiaries industrial areas chiefly in Ohio and Western Pennsylvania. Electric subsidiaries, located principally in Ohio, bring in about 30% of gross revenues.

Debt and Capital Issues

Subsidiary	\$ 77,559,000
Parent Co.	104,450,900
Subsidiary Stocks	50,179,928
\$6 Cumulative Preferred	94,066,400
\$5 Cumulative Preferred	3,869,500
\$5 Cumulative Preference	12,166,800
Common (No Par)	12,223,256 shares

Income Statistics (Million \$)

	Gross Revenue	Net for Dividends	Combined Pfd.*	\$5 Pref.*	Common*
1934	77.4	9.8	9.98	17.76	0.25
1935	81.2	11.9	12.20	27.45	0.43
1936	90.9	13.2	13.50	33.52	0.53
1937	98.6	13.6	13.86	63.48	0.57
1938	93.0	10.2	10.45	36.00	0.31

* per share.

The company derives about two-thirds of its revenue from natural gas. The 41 principal subsidiaries are nearly all 100% owned through common stock ownership. Being chiefly a holding company, Columbia's securities have a lower investment rating although well protected by assets and earnings.

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Price Range

	1939	1938
Debenture 5s May 1952	104¼-92½	99-86
Debenture 5s April 1952	104¼-92¾	98-86
Debenture 5s 1961	104¼-92¾	96¼-85
Preferred (6%)	91-74½	83-57
Preferred (5%)	83-62½	70-50
Preference (5%)	74¾-55½	70-47¼
Common	9-5¼	9¾-5½

Schedule G

EL PASO NATURAL GAS CO.

A wholesale pipe line company which purchases its supply from the Lea County Field in New Mexico. Latter has estimated reserves sufficient for 40 years. Pipe lines to El Paso, Tucson and Phoenix sell gas chiefly to public utilities (46%) and copper companies (42%) under long-term contracts.

Debt and Capital Issues

Funded debt	\$6,000,000
Notes 1940-45	3,750,000
\$7 Cumulative Preferred (Par \$100)	14,797 shares
Common (Par \$3)	601,594 shares

Income Statistics (Million \$)

	Gross Revenue	Net	Per Share Common
1934	2.03	0.33	0.91
1935	2.33	0.42	1.20
1936	3.23	1.07	1.76
1937	4.68	1.89	3.00
1938	4.92	2.08	3.30
1939	5.88	2.35	3.73

	Common Price Range	Average Price	Dividend	Dividend Yield
1936	29 $\frac{1}{4}$ —22 $\frac{3}{4}$	26.00	0.40	(Initial div. Dec. 29, 1936)
1937	29 $\frac{1}{2}$ —14 $\frac{1}{2}$	21.75	2.00	9.91
1938	29 $\frac{1}{2}$ —17	23.43	2.00	8.53
1939	42 $\frac{3}{4}$ —28	35.37	2.00	5.65

In September, 1936, a syndicate of investment bankers purchased from private investors and sold to the public 60,000 shares of common stock at \$20 per share. The underwriters were allowed \$1 per share or 5%. The capital structure at that time consisted of \$11,038,000 bonds, \$1,479,700 7% cumulative preferred stock and 408,558 shares of common stock, which at \$20 per share made an aggregate of

\$6,171,180 common stock. The first mortgage $4\frac{1}{2}\%$ bonds due 1951 were quoted at $101\frac{1}{2}$ (yielding about 4.36%). The 7% preferred stock was then quoted at 106 (yielding about 6.60%). The company was showing a sharply rising trend in gross operating revenue and net income. In January, 1939, the bonds were retired and a new issue of \$6,000,000 first mortgage 15-year $3\frac{1}{2}\%$ s due December 1, 1953 were sold privately to six institutional investors at $98\frac{1}{2}$ to yield about 3.63%. The preferred stock is unlisted but during 1939 broker's bids ranged from $105\frac{1}{2}$ to $111\frac{1}{4}$. At the year end $109\frac{1}{2}$ was bid at which figure the yield was 6.39%.

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Schedule H

NORTHERN NATURAL GAS CO.

Purchases, produces, transmits and distributes natural gas principally at wholesale in Iowa, Kansas, Nebraska, South Dakota and Minnesota. Cities supplied at wholesale include Omaha and Lincoln, Nebraska, Council Bluffs, Des Moines and Sioux City, Iowa, and Minneapolis and Rochester, Minnesota. Supply comes from Texas Panhandle and Kansas. Purchases most of its requirements. Stock is all owned by Lone Star Gas Corp., North American Light & Power Co. and United Light & Railways Co.

In August, 1939 an issue of \$16,000,000 1st mortgage and 1st lien $3\frac{1}{4}\%$ s-1954 was sold privately at par.

	Gross	Net for Interest
1935	\$7,952,000	\$2,810,000
1936	9,037,000	3,019,000
1937	9,775,000	3,660,000
1938	9,959,000	3,521,000

Interest charges on the new bonds, \$520,000.

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Schedule I

SOUTHERN NATURAL GAS CO.

Purchases gas from producers mostly in Louisiana.
 Reorganized in October 1935 under terms of Section 77B of
 Bankruptcy Act.

Debt and Capital Issues

Funded debt	\$19,326,523
Bank loans	1,475,000
Common (Par 7½)	691,970 shares

Income Statistics (Million \$)

	<u>Gross Revenue</u>	<u>Net for Interest</u>	<u>Net for Dividends</u>
1937	7.0	2.6	1.39
1938	6.8	2.2	1.03

The \$12,939,000 first 4½'s-1951 were sold at par in
 November, 1936.

Bond Price Range

<u>1939</u>	<u>1938</u>	<u>1937</u>
106¾—100¾	102—91	101½—94½

About 48% of the common is owned by Federal Water
 Service Corp. No dividend until June 30, 1939.

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Schedule J

NORTH PENN GAS CO.

Distributes gas in Pennsylvania and New York and through subsidiaries produces gas

Debt and Capital Issues

Funded Debt	\$3,450,000
\$7 Prior Preferred	631,200
\$7 Preferred	1,316,000
Common	100,000 shares

Income Statistics (Million \$)

	<u>Gross Revenue</u>	<u>Net for Interest</u>
1935	2.3	0.55
1936	2.5	0.57
1937	2.6	0.54
1938	2.5	0.44

Common and preferred all owned by Penna. Gas & Electric.

The 5½% bonds due 1957 are callable at 105 to May 1, 1937 and ¼% less each November 1 thereafter.

Bond Price Range

<u>1939</u>	<u>1938</u>	<u>1937</u>	<u>1936</u>	<u>1935</u>
107¼—102½	106—102	106½—102½	106½—101	105½—100

17. COMPANY WITNESS COFFMAN'S EXHIBIT NO. 27 ENTITLED: "Investors' Appraisal of Comparative Risks of Capital in the Natural Gas Business, 1937-1939—Written Statement of Paul B. Coffman"

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STATEMENT OF EXPERIENCE AND QUALIFICATIONS OF PAUL B. COFFMAN

1. Name, address and age

Paul B. Coffman, 345 Hudson Street, New York City;
age 39.

2. Education

Graduate of Ohio State University in 1923, with degree of B. S. Graduate of Harvard University, Graduate School of Business Administration, 1926, with degree of M.B.A.

3. Present position

Vice-President of Standard Statistics Company, Inc., a corporation engaged, among other things, in gathering, collating, analyzing and disseminating, on both a printed and personal advisory basis, statistical and general information on all phases of business, industry and investments.

4. Experience and qualifications

1926-1927: Professor of Economics at the College of William and Mary, Williamsburg, Virginia.

1927-1936: Professor of Accounting and Business Policy at the Graduate School of Business Administration at Harvard University; consulting economist for a number of industrial corporations and financial advisory institutions; during 1931 and 1932 Executive Vice-President and General Manager of Poor's Publishing Company of New York City, a firm which is engaged in a business similar to that of Standard Statistics Company, Inc. and publishes Poor's Manuals.

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1935-1939: Departmental Manager of Standard Statistics Company, Inc., having charge of statistical and research investigation and valuations.

1939 to date: Vice-President of Standard Statistics Company, Inc., directly in charge of statistical and economic research and valuation for individuals, institutional and corporate clients.

Duties with Standard Statistics Company, Inc., have included the constant examination and analyses of many situations involving all kinds of securities and various corporations with a view to determining the hazards involved and the intrinsic worth of the securities based upon personal investigation and analysis, and the presentation of the findings to the many clients of Standard Statistics Company, Inc.

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WRITTEN STATEMENT OF PAUL B. COFFMAN

1. Purpose Of This Exhibit

In March of this year, Standard Statistics Company, Inc. was retained by the Hope Natural Gas Company to make a statistical study for the years 1937, 1938 and 1939 of the investors' appraisal of the risks of capital invested in the natural gas business as compared with the risks of capital invested in other utility industries. The analysis covered the following utility classifications, namely, (1) electric utility operating companies, (2) water companies, (3) manufactured and mixed gas companies and (4) natural gas companies.

This exhibit is a statement of the result of that investigation. The working papers on which it is based are available for inspection by all parties to the present proceedings.

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2. Method Of Procedure

A group of companies in each of the utility classifications was selected on bases which will be described below. Statement E at pages 26 to 33 of this exhibit contains a general description of the business of each of the companies and the territory in which it operates.

The general method of procedure as to each company and group of companies involved four steps, as follows:

- (1) The indicated total market value of all of the securities of a single company was determined by taking the sum of the amounts produced by multiplying the number of each class of security (bonds, preferred and common stocks as the case may be) outstanding at the end of each year by the average of its high and low market quotations in that year.

Example:

**Indicated Market Value of the Securities Outstanding of
the Boston Edison Company for 1939**

	Capital Outstanding Dec. 31, 1939	1939 Market Prices			Indicated Market Value
		High	Low	Average	
Capital Stock (\$100 par)	617,164 shs.	160	127	143.50	\$ 88,563,034
1st Mortgage Bonds Series A, 3½'s, '65	\$53,000,000	112½	103½	108	57,240,000
				Total	\$145,803,034

- (2) Next there was determined for the individual company the total earnings available for distribution to these securities after taxes, depreciation and

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all other miscellaneous charges as reported in the particular company's published annual report to stockholders.

Example:

The consolidated earnings of the Boston Edison Company for 1939 available for its capital after taxes, depreciation and all other miscellaneous charges, as shown in the published report to its stockholders for 1939, was \$7,297,587.

- (3) The earnings so determined under (2) were then divided by the indicated market value of all securities as determined under (1) and a rate for the year was thus obtained.

Example;

In the case of the Boston Edison Company for 1939, dividing the consolidated earnings available for capital, in the amount of \$7,297,587, as shown above, by the indicated market value of all capital of \$145,803,034, gives a percentage of 5.01 per cent, which, in my opinion, fairly indicates the investors' appraisal of the risks of capital employed in that enterprise for the year 1939.

- (4) Having determined in the manner described above the investors' appraisal of the risks of capital employed in each company selected, the indicated market value of all the companies in each group, determined under (1) above, was added to obtain the indicated market value of the capital securities of the entire group. Similarly, the earnings available for distribution to the securities of each of the companies, as determined under (2) above, were added to obtain the total earnings available for distribution to securities of the entire group. The

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latter figure was then divided by the former in order to obtain the investors' overall appraisal of the risk of all capital in the group. This was done for each of the years 1937, 1938 and 1939.

*Example:***Determination of Investors' Appraisal of Risks of Capital
for Electric Operating Utility Companies as a Group**

	Indicated Market Value of Capital		
	1937	1938	1939
Boston Edison Company	\$ 140,377,138	\$ 132,313,981	\$ 145,803,034
Commonwealth Edison Company	627,713,979	659,945,351	705,040,810
Consolidated Edison Co. of New York, Inc.	1,081,937,457	1,021,974,547	1,101,280,966
Consolidated Gas, Electric Light & Power Co. of Baltimore	185,161,844	173,973,927	192,758,869
Detroit Edison Company	296,761,357	276,549,713	303,425,025
Pacific Gas & Electric Company	638,039,237	634,253,084	673,724,413
Southern California Edison Company, Ltd.	343,044,455	325,193,494	332,597,011
Total	\$3,313,035,467	\$3,224,204,097	\$3,454,630,128
	Earnings Available for Distribution to Capital		
	1937	1938	1939
Boston Edison Company	\$ 7,505,886	\$ 7,163,506	\$ 7,297,587
Commonwealth Edison Company	39,294,881	39,006,579	41,254,094
Consolidated Edison Co. of New York, Inc.	52,797,146	53,893,205	55,643,286
Consolidated Gas, Electric Light & Power Co. of Baltimore	9,162,762	8,316,215	9,240,571
Detroit Edison Company	15,898,965	13,841,099	15,685,727
Pacific Gas & Electric Company	37,322,975	35,976,977	38,214,304
Southern California Edison Company, Ltd.	19,146,425	19,019,797	19,480,429
Total	\$ 181,129,040	\$ 177,217,378	\$ 186,815,998
Investors' Appraisal of Risks of Capital	5.47%*	5.50%*	5.41%*

Note: (*) Obtained by dividing "Earnings Available for Distribution to Capital" by "Indicated Market Value of Capital."

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3. Analysis of Data On Electric Utility Operating Companies

All utility operating companies upon which Standard Statistics Company, Inc. currently publishes data in Standard Earnings Bulletin were first listed. These were the

more important utility operating companies in which there was substantial investment interest. From this list there were excluded all companies whose operations were not predominantly in the electric field. The resulting list included the following companies:

Boston Edison Company
 Commonwealth Edison Company
 Consolidated Edison Co. of New York, Inc.
 Consolidated Gas, Electric Light & Power Co. of Baltimore
 Detroit Edison Company
 Pacific Gas & Electric Company
 Southern California Edison Company, Ltd.

For each of these companies and for the group of companies, for each of the years 1937, 1938 and 1939, the investors' appraisal of the risks of capital as a percentage was obtained by application of the method fully described in Section 2 above.

The actual results of these determinations to the group of electric utility operating companies are presented in the following table:

**Determination of the Investors' Appraisal of the Risks
 of Capital for Electric Utility Operating Companies**

	1937	1938	1939
Total Indicated Market Value of Capital	\$3,313,035,467	\$3,224,204,097	\$3,454,630,128
Total Earnings Available for Indicated Capital	181,129,040	177,217,378	186,815,998
Investors' Appraisal of Risks of Capital	5.47%	5.50%	5.41%

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In other words, this analysis indicated that investors appraised the risk of capital invested in electric operating utility companies as a group in 1937, 1938 and 1939, respectively, at 5.47 per cent, 5.50 per cent and 5.41 per cent, or an average for the three years of 5.46 per cent.

Supporting data on each of the companies mentioned and for each of the years studied, as well as total figures

for the group, are presented in Statement A at page 21 of this exhibit.

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4. Analysis of Data on Water Companies

A list of all operating companies engaged solely in the water business was first prepared from Standard Corporation Records. From this list companies were eliminated for the following reasons:

1. Companies whose common stocks were held by one of the larger holding companies, such as American Water Works & Electric Company, Inc., the Federal Water Service Corporation and the Community Water Service Company, and whose stocks had no obtainable market evaluation.
2. Companies whose stocks were closely held by relatively few individuals and had no available market evaluation.
3. Companies whose 1939 gross operating revenues were less than \$500,000. This latter class was not deemed of sufficient importance to be included in the study.

The result of these eliminations in the over-all list was the following group of companies:

Bridgeport Hydraulic Company
Elizabethtown Water Co. Consolidated
Hackensack Water Company
Middlesex Water Company
New Haven Water Company
Plainfield-Union Water Company
Stamford Water Company

The method of determining the investors' appraisal of the risks of capital in this division of the utility industry was the same as that previously described in Section 2 above.

The actual results of these determinations for the group of water companies are presented in the following table:

**Determination of Investors' Appraisal of Risks of Capital
for Water Company Securities**

	1937	1938	1939
Total Indicated Market Value of Capital	\$79,947,987	\$76,395,996	\$79,414,304
Total Earnings Available for Indicated Capital	4,410,457	4,114,122	4,495,678
Investors' Appraisal of Risks of Capital	5.52%	5.39%	5.66%

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In other words, this analysis indicated that investors appraised the risk of capital invested in water companies as a group in 1937, 1938 and 1939, respectively, at 5.52 per cent, 5.39 per cent and 5.66 per cent, or an average for the three years of 5.52 per cent.

Supporting data on each of the companies mentioned and for each of the years studied, as well as total figures for the group are presented in Statement B at page 22.

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5. Analysis of Data on Manufactured and Mixed Gas Companies

A list was prepared of all operating companies distributing manufactured or mixed gas and listed in Standard Corporation Records. From this list companies were eliminated for the following reasons:

1. Companies which did not have stocks outstanding in the hands of the public and for which there was no market evaluation.
2. Companies whose gross revenue was predominantly obtained from services other than the distribution of manufactured and/or mixed gas.
3. Companies which were in receivership at the end of 1939. Figures of such companies would not be comparable or representative.
4. Companies with gross revenues in 1939 of less than \$1,000,000, because these were too small to have any important bearing on the final results.

After giving effect to these eliminations, the following companies remained in the list:

Bridgeport Gas Light Company
 Brooklyn Union Gas Company
 Elizabethtown Consolidated Gas Company
 Hartford Gas Company
 Laclede Gas Light Company
 Peoples Gas Light & Coke Company
 Providence Gas Company
 Seattle Gas Company
 Springfield (Mass.) Gas Light Company
 Washington Gas Light Company

The method of determining the investors' appraisal of the risks of capital in this division of the utility industry was that previously described in Section 2 above.

The actual results of these determinations for the group of manufactured and mixed gas companies are presented in the following table:

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**Determination of the Investors' Appraisal of the Risks of Capital
 for Manufactured and Mixed Gas Companies**

	1937	1938	1939
Total Indicated Market Value of Capital	\$279,745,945	\$245,431,786	\$262,282,318
Total Earnings Available for Indicated Capital	17,266,576	16,235,071	17,342,623
Investors' Appraisal of Risks of Capital	6.17%	6.61%	6.61%

In other words, this analysis indicated that investors appraised the risk of capital invested in manufactured and mixed gas companies in 1937, 1938 and 1939, respectively, at 6.17 per cent, 6.61 per cent and 6.61 per cent, or an average for the three years of 6.46 per cent.

Supporting data on each of the companies mentioned and for each of the years studied, as well as total figures for the group, are presented in Statement C at page 23.

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6. Analysis of Data on Natural Gas Companies

A list was prepared of all operating and holding companies engaged in any phase of the natural gas business. From this there were eliminated:

1. Companies which had no stocks outstanding in hands of the public and no obtainable market evaluation of their stocks.
2. Companies which were not exclusively engaged in the natural gas business.
3. Companies in receivership at the end of 1939.

After giving effect to these eliminations, the following companies remained:

Duquesne Natural Gas Company
El Paso Natural Gas Company
Houston Natural Gas Corporation
Interstate Natural Gas Company, Inc.
Lone Star Gas Corporation
Memphis Natural Gas Company
Mountain Fuel Supply Company
National Fuel Gas Company
Northern Oklahoma Gas Company
Northern Utilities Company
Oklahoma Natural Gas Company
Pacific Lighting Corporation
Southern Natural Gas Company

The procedure followed in determining the investors' appraisal of the risks of capital in this division of the utility industry was that previously described in Section 2 above.

The actual results of these determinations for the group of natural gas companies are presented in the following table:

**Determination of the Investors' Appraisal of the Risks of
Capital for Natural Gas Companies**

	1937	1938	1939
Total Indicated Market Value of Capital	\$461,156,640	\$420,658,527	\$446,994,750
Total Earnings Available for Indicated Capital	36,488,033	32,757,549	33,658,297
Investors' Appraisal of Risks of Capital	7.91%	7.79%	7.53%

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In other words, this analysis indicated that investors appraised the risk of capital invested in natural gas companies in 1937, 1938 and 1939, respectively, at 7.91 per cent, 7.79 per cent and 7.53 per cent, or an average for the three years of 7.74 per cent.

Included in the above group of natural gas companies is Pacific Lighting Corporation. This company, through subsidiaries, distributes natural gas to 272 cities and towns in Southern California, including Los Angeles. Its subsidiaries serve about half the population of the state. Market prices of the securities of these operating companies are not available. In the absence of these, this holding company was treated as a single operating company in the above group. As a result, its indicated market value is nearly 40 per cent of that of the entire group of natural gas companies.

This gives entirely too much weight in the above table to a purely distributing company. Pacific Lighting Corporation owns no gas producing facilities. It does not run any of the risks of a producing and transporting company as does the Hope Natural Gas Company. It purchases its gas from independent oil and gas producers operating in the immediate territory served by it, where the actual and potential reserves are the greatest in its history.

For these reasons, the risks of capital employed in this company more nearly approximate those of strictly distributing companies serving manufactured or mixed gas. Comparison of the investors' evaluation of the risks of this

company as compared with the risks in the manufactured and mixed gas companies set forth above is as follows:

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Comparison of Investors' Appraisal of Risks of Capital in Pacific Lighting Corporation as Compared with the Manufactured and Mixed Gas Companies Group

	1937	1938	1939	Three Year Average
Pacific Lighting Corporation	7.20%	7.35%	6.26%	6.94%
Manufactured and Mixed Gas Companies Group	6.17%	6.61%	6.61%	6.46%

As a test, in the following table all figures for the Pacific Lighting Corporation are eliminated, and with this elimination the figures for the 12 natural gas companies remaining in the group are as follows:

Determination of the Investors' Appraisal of the Risks of Capital for Natural Gas Companies (Excluding Pacific Lighting Corporation)

	1937	1938	1939
Total Indicated Market Value of Capital	\$294,414,969	\$263,667,801	\$275,217,638
Total Earnings Available for Indicated Capital	24,488,305	21,213,539	22,902,944
Investors' Appraisal of Risks of Capital	8.32%	8.05%	8.32%

In other words, when figures for the Pacific Lighting Corporation are eliminated from the group of natural gas companies, investors appraised the risk of capital invested in the remaining natural gas companies in 1937, 1938 and 1939, respectively, at 8.32 per cent, 8.05 per cent, and 8.32 per cent, or an average for the three years of 8.23 per cent.

Any inference from the summary figures given above for all natural gas companies that the investors' appraisal of the risk is decreasing is caused solely by the Pacific Lighting Corporation figures, which dropped from 7.20 per cent and 7.35 per cent in the years 1937 and 1938, respec-

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tively, to 6.26 per cent in 1939. The above figures for the rest of the natural gas industry show no decline in the in-

vestors' appraisal of the risk which remained constantly above 8 per cent.

For the reasons set forth, it is concluded that the last table of figures presented above more nearly approximates the investors' appraisal of the risks of capital in the natural gas industry as a whole than does the preceding table which includes Pacific Lighting Corporation.

Supporting data on each of the natural gas companies mentioned and for each of the years studied, as well as total figures for the group, are presented in Statement D at page 24.

Although plausible reasons might be given for the elimination of several of the smaller companies included in the final table of natural gas companies, if this were done no substantial change in the results would be made. This is clearly indicated by Statement D-1 at page 25.

7. Summary of Analyses

The foregoing analyses indicate most clearly that the percentages representing the investors' appraisal of the risks of capital invested in the various divisions of the utility industry analyzed, increased as the risks of the particular utility division increased. In order that this may be seen clearly, the summary figures are presented as follows:

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Investors' Appraisal of Capital Risk in Various Divisions of the Utility Business

	1937	1938	1939	Three Year Average
Electric Utility Operating Companies	5.47%	5.50%	5.41%	5.46%
Water Companies	5.52	5.39	5.66	5.52
Manufactured and Mixed Gas Companies	6.17	6.61	6.61	6.46
All Natural Gas Companies	7.91	7.79	7.54	7.74
All Natural Gas Companies Excluding Pacific Lighting Corporation	8.32	8.05	8.32	8.23

The above table clearly shows that in 1937, 1938 and 1939, investors appraised the risk of manufactured and mixed gas companies as a group at approximately 1 per cent higher, and the risk of natural gas companies as a group at 2 per cent to 2½ per cent higher, than the risk of electric operating companies and water companies.

SIGNED at New York, New York, this May 22, 1940.

PAUL B. COFFMAN.

18. COMPANY WITNESS COFFMAN'S EXHIBIT NO. 27-A ENTITLED: "Investors' Appraisal of Comparative Risks of Capital in the Natural Gas Business, 1940 (Supplement to Exhibit No. 27)"

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WRITTEN STATEMENT OF PAUL B. COFFMAN**1. Purpose of this Exhibit**

The purpose of this exhibit is to bring up-to-date, through the inclusion of data for 1940, a previous exhibit dated May 22, 1940, entitled "Investors' Appraisal of Comparative Risks of Capital in the Natural Gas Business, 1937-1939" which was prepared for the Hope Natural Gas Company.

2. Summary of Analyses

A summary of the findings covering the year 1940 and the average for the four years 1937-1940, both inclusive, as compared with data presented previously covering each of the years 1937, 1938 and 1939, and the three year average 1937-1939, both inclusive, is presented in the following table. The method of computing the data for 1940, was exactly the same as for previous years.

**Investors' Appraisal of Capital Risk in Various Divisions
of the Utility Business**

	1937	1938	1939	Three Year Average 1937-1939	1940	Four Year Average 1937-1940
Electric Utility Operating Companies	5.47%	5.50%	5.41%	5.46%	5.43%	5.45%
Water Companies	5.52	5.39	5.66	5.52	5.23	5.45
Manufactured and Mixed Gas Companies	6.17	6.61	6.61	6.46	6.88	6.57
Natural Gas Companies	7.91	7.79	7.53	7.74	7.97	7.80
Natural Gas Companies Including Pacific Lighting Corporation	8.32	8.05	8.32	8.23	9.34	8.51

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The above table shows conclusively that, for 1940, investors continued to appraise the risk of natural gas companies as a group at a rate considerably higher than for the other divisions of the utility industry studied, namely, manufactured and mixed gas companies, water companies and electric utility operating companies.

On the basis of averages for the four years 1937-1940, both inclusive, the risk of natural gas companies, as demonstrated by the investors' appraisal of all outstanding capital obligations, averaged approximately 2 per cent higher than for manufactured and mixed gas companies, and approximately 3 per cent higher than for electric operating companies and water companies.

SIGNED at New York, New York this July 3, 1941.

PAUL B. COFFMAN.

19. TESTIMONY OF COMPANY WITNESS PERCY W. BROWN AS TO PRESENT AND HISTORICAL RATE OF RETURN, WEDNESDAY, JULY 9, 1941, RECORD PAGES 5200 TO 5229

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Mr. Cockley: Mr. Brown, will you take the stand?

Whereupon, PERCY W. BROWN, called as a witness on behalf of the Hope Natural Gas Company, having been previously sworn, was examined and testified as follows:

Trial Examiner: The stipulation with respect to the correction of the record for the last preceding series of sessions is approved by the Trial Examiner, and will be incorporated into the record of these proceedings.

(The stipulation of corrections will be found at the end of today's transcript.)

Trial Examiner: You may proceed with the examination of the witness.

DIRECT EXAMINATION by Mr. Cockley.

Q. Mr. Brown, you testified previously in this case as to the present day rate of return for the Hope Company, did you not? A. Yes, in June, 1940, in Clarksburg, West Virginia.

Q. And am I correct that your testimony at that time was directed to your opinion as to the fair rate of return to be applied to the present fair value of the property of the Hope Company? A. You are correct.

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Q. Now since you testified before, the Commission has introduced, through Mr. Knapp, a 3-volume exhibit which is marked Exhibit 82, 82-A and 82-B in this case. I should like to inquire whether, in view of the voluminous information contained in those volumes, you want in any re-

spect to modify or change the testimony that you gave in June of 1940? A. No, I do not. The statistical information in Mr. Knapp's exhibits with reference to bond prices, preferred stock prices and common stock prices, and ratios, is extremely interesting and bears out the figures which I have. As a matter of fact, all that information was available to me and was given due consideration. I think the exhibit is an extremely capable and far-reaching one, but at the same time I wouldn't want to be understood as agreeing to all the information in it as being necessary. Some of it is a little superfluous, such as Federal re-discount rates, prime commercial paper rates, and so forth.

Q. Now aside from this exhibit, Mr. Brown, have any other matters come to your attention, between the time you testified before, that would either confirm or cause you to modify the opinion you expressed at that time as to the fair rate of return to the Hope Company for the present and the near future time? A. Yes, there has been one very significant event that has taken place this summer, the almost complete refinancing of a major natural gas enterprise, the Southern Natural Gas Company.

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Q. Will you tell us about that? A. The two prospectuses are dated June 6, 1941, one covering \$13,000,000 first 3½ percent bonds due 1956, which were sold to the public at 103, and netted the company 101¼. \$4,500,000—2½ percent serial notes, sold presumably to the banks at par, and 234,868 shares of common stock offered to stockholders at \$12.50 a share, with no underwriting other than the commitment of the parent company, the Federal Water Service Corporation, which agreed to purchase any stock not subscribed for by the stockholders, thus netting the company \$12.50 per share.

The stockholders of record June 13, 1941, were given the right to subscribe for new shares in the ratio of one-fifth of one share for each share held, and the warrants

will expire September 15, 1941. The notes were sold to four banks, presumably at par.

Thus, all classes of securities are being issued to the public at the present time, that is, June, 1941, and up to September 15, 1941.

The depreciated book value of the properties was estimated as of December 31, 1940, at \$30,979,000, which makes the mortgage in effect about 41.9 per cent. The bonds carry a Moody rating of A, and the interest on these bonds is being earned over 7 times.

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Thus, \$13,000,000 of bonds at 101 $\frac{1}{4}$ makes \$13,162,500; \$4,500,000 of notes at par makes \$4,500,000; 1,409,212 shares of common stock, the full amount outstanding, at \$12.50 per share, makes \$17,615,150; or a grand total of \$35,277,650.

The net income for the past 4 $\frac{1}{4}$ years, after taxes and depreciation, is as follows:

1937—\$2,478,652.

1938—\$2,329,074.

1939—\$2,799,244.

1940—\$3,071,786.

And for the 12 months ending March 31, 1941—\$3,087,638.

Most of the money was used for refunding purposes, but there are some \$7,000,000 of new money, namely, \$4,800,000 from the sale of this block of stock going on at the present time, plus a block of stock which was put out last January and February in 1941, of 482,374 shares, and I have given no weight to the earning power of this new money, of approximately \$7,000,000.

But taking the picture as it stands today, \$35,277,000 cost of the money and \$3,087,000 of earnings, gives an earnings price ratio of 8.75 percent.

I might say that the prices at which these securities were sold were approved by the Securities and Exchange Commission.

And I think that is a very significant piece of financial

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history, as it is the most complete refinancing of a natural gas property in my recollection.

Q. Well, would that cause you in any respect to change the opinion you expressed before as to the fair rate of return for the Hope Company? A. No, it would not.

Q. Mr. Brown, since you testified in the former case, I have asked you to make such investigation as was necessary in order to form an opinion as to the rate of return which the Hope Company could reasonably expect to receive in the past at the various times at which it constructed or purchased property in its present plant. And I would like to inquire whether you have made such an investigation, and whether you are prepared to testify on that subject? A. I have and I am.

Q. Now will you state whether you have determined what you consider an appropriate rate of return for money invested by Hope in its plant for each year since the beginning, or have made some division of the entire period? A. Well, my investigation led me to make four divisions. It seems that the history of the Hope Company falls into four natural divisions—

Mr. Springer: (Interposing) I object to this line of inquiry. I don't see the relevancy of it. I would like to have a statement of the purpose of this type of testimony,

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the rate of return being a current problem.

Mr. Cockley: I would be very glad at this point, Mr. Examiner, because there are no secrets about this and no mystery, and I would be very glad to advise both the Examiner and counsel the purpose of it.

We put in evidence of reproduction cost new of this property, and depreciated, as bearing upon the present fair value of the property. As we all know, there have been a lot of changes upward in price levels since this property began to be constructed in 1898, and that is one way of reflecting the increased value of property that has occurred by reason of those changes in price levels when that property was constructed particularly prior to World War No. 1, as much of the Hope property was.

And we also, through Mr. Brown, introduced testimony as to what the present fair rate of return on that property was.

Now the Power Commission's staff has come in with what they say is an original cost, a depreciated original cost. I shall not argue at the present time that what they claim to be original cost isn't any such thing, but it is what they claim to be original cost; that is, they want to put in the rate base the pipe lines that were constructed prior to World War No. 1, at the low costs that were prevailing at that time.

Now I propose to have Mr. Brown testify as to what the rate of return that a company such as the Hope Com-

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pany fairly was entitled to receive under all conditions prevailing at that time, and had a right to expect to receive on that property at the time it was constructed.

In other words, if we are going to go back to the original cost of this property, and the dollars that the Hope Company put in plant back in pre-World War periods, if that is to be given any consideration there must also be given consideration to the rate of return that the builders of that property had a right to expect when they put those dollars in property and thus permanently devoted them to public service.

To be more specific, if the rate of return in the development stage of this property, in its early history, under

all the conditions that prevailed at that time, the owners of property of this kind, engaged in that kind of a new enterprise, were entitled to a return of 20 percent upon it, at that time; and you are now going to take, you are now not going to reflect any increased value which we know has occurred in that property, then the proper rate of return to a company, that is the rate of return that they reasonably had a right to expect at the time they invested their dollars.

In other words, it is the rate of return that must accompany any notions as to original cost, as a rate base, and I am putting it in and I am offering Mr. Brown's testimony upon that point for that purpose, and I submit that it is entirely relevant and entirely proper testimony, and

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it is testimony that necessarily must accompany this notion that they have that the original cost can be used as a rate base.

Trial Examiner: Have you qualified this witness to testify with respect to that?

Mr. Cockley: Well, I think so. This witness, as I recall his qualifications, has testified that he has been in this business since 1908 or 1909. He has devoted his whole life to it.

Trial Examiner: That being the case, he is qualified to testify as to what rate of return this company was entitled to receive.

Mr. Cockley: He is qualified to express an opinion as to the rate of return that investors in a natural gas property such as this was, under all the conditions prevailing at various times over the past, the rate of return that they fairly were entitled to receive on money invested in plant account at those various times.

Mr. Springer: Do you mean that he has made a study for each of the 40 years in the past, of the prevailing current rate of return for each of those years?

Mr. Cockley: Well, he has grouped it by periods, as he has just stated.

Mr. Springer: And in 1909 he was a bookkeeper in the Boston office of Hornblower & Weeks?

Mr. Cockley: Well, if there is any question about

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qualification, I shall ask him additional questions.

Mr. Slaff: The objection goes much deeper than that, Mr. Examiner, before we get to the problem of qualification of this witness. I think the objection goes to the heart of this testimony, its relevancy and its materiality in this case. The relevancy of any testimony as to what an investor expected by way of return in 1898 or 1900 or 1915, or any other date, the relevancy of such testimony on the problem of fixing rate of return in the year 1941 for that time, and the reasonably immediate future, and it is to that that the objection is in the first instance directed.

Mr. Springer: And furthermore, it is history now, what rate of return Hope Natural Gas Company realized.

Mr. Cockley: So is original cost history.

Trial Examiner: Yes, the studies that the Commission's staff submitted aren't confined to the present.

Mr. Springer: It is reasonable return because the rate of return determination is controlled by current economic conditions.

Trial Examiner: Well, it occurs to me that the question might arise as to the reasonableness of the return received by the Company over the period of its history in connection with some of the problems here.

Mr. Slaff: Well, I don't understand that that is the purpose for which this testimony is offered, Mr. Examiner.

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Mr. Cockley: No, that isn't the purpose for which it is offered.

Let me put it this way: As I conceive original cost, if we are going to original cost in any respect as a rate base,

then we have got to, at the same time, take its Siamese twin along with it, and that Siamese twin is the rate of return that the owners of property reasonably had a right to expect when they built or purchased the property at the original cost, if you are going to take it as a rate base. In other words, this isn't offered as a part of my case at all. This is offered in answer to the claim that these rates that we have are too high because on an operating experience we made so many dollars over a certain period of time, and that is claimed on the other side as being too much.

I am going to show that if you take original cost as a rate base, and accompany it with this Siamese twin, namely, the rate of return that the owners of the property reasonably had a right to expect when they invested their dollars in this original cost, in this plant at the original cost, you will find that the amount of money that they are earning is not too much, because that rate of return will be substantially higher than the rate of return fixed on today.

In other words, in a word my claim is this, and I leave it with that,—if you are going to take an up-to-date, present value of the property, that pays very substantial attention

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to reproduction cost and present day cost, then the right rate of return for it is the present, up-to-date rate of return reflecting modern money conditions, and under the tests that have been laid down by the Court.

If you are going back to a rate base that is an accumulated history over a long period of years, then the right rate of return to go with that is the historical rate of return that should accompany original cost, and you can't both deprive the owners of this property of the increased value of the property and at the same time deprive them of the rate of return that they reasonably had a right to expect at the time they invested their dollars in that property.

Mr. Springer: I can't follow Mr. Cockley. There could be no deprivation of property here on the present de-

termination of rate base and what a fair rate of return is. Past profits in this case, which were great—there don't have to be any past losses. Neither can be a dominant factor in the determination of rates for the future. That is pretty well established.

Mr. Cockley: I have said nothing about either profits or losses, and the Company had both.

Mr. Reeder: Mr. Examiner, may I ask that counsel for the Company state whether he proposes to show the actual cost of the money invested at the time the investment was made, or whether he intends to offer, through this wit-

—5211—

ness, some speculation as to what the cost of money should have been?

Mr. Cockley: Well, that is an interesting question, but I don't understand it.

Trial Examiner: Well, there is a very serious question in my mind as to the relevance of the evidence. I appreciate the right of the respondent to make up his record here for the purpose of arguing the questions. I think more serious harm could be done by its exclusion than by its inclusion. The objection is overruled.

Mr. Cockley: Read the last question and answer, please?

(The record was read by the reporter as follows:

“Q. Now will you state whether you have determined what you consider an appropriate rate of return for money invested by Hope in its plant for each year since the beginning, or have made some division of the entire period?

A. Well, my investigation led me to make four divisions. It seems that the history of the Hope Company falls into four natural divisions—”).

By Mr. Cockley:

Q. Before you pursue that further, Mr. Brown, let me ask you one or two more questions that go to the matter of your qualifications.

As I recall it, your testimony was that you entered the brokerage business in about 1909, was it, or 1908? A. January, 1909.

—5212—

Q. And your first position was with Hornblower & Weeks, was it? A. Yes.

Q. The firm of which you are now a partner? A. Yes.

Q. And that was in the Boston office, as I recall it? A. Yes.

Q. When were you made chief statistician? A. I was assistant statistician from the middle of 1910 until the fall of 1916, when I was made chief statistician.

Q. Now will you tell us what the duties of a statistician are, or what your duties as statistician and as assistant statistician were, just generally? A. Well, the analyzing and reporting to the firm and to individuals on hundreds of corporations, railroads, public utilities and industrials.

Collaterally I gave lectures to college bodies on current financial conditions. That wasn't exactly a part of my duties, but they covered the whole range of securities held by the public, advising individuals and the firm.

As chief statistician I was the chief investigator for a number of years of corporations looking for financing by our firm.

Q. State the fact as to whether or not your duties, both as statistician and assistant statistician, required you

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to keep yourself informed, currently at least, as to the conditions of the money market, the financial conditions generally, and other factors that enter into a consideration of rate of return? A. They did, and I might add that down through the years I made a considerable study of past conditions, going back to perhaps 1890.

Q. And when was that done? A. When I was chief statistician.

Q. What did you study during the period from 1890, at that time? A. General financial conditions of the country.

Q. Markets? A. Markets for all kinds of securities.

Q. Prevailing prices at various times? A. General prices, not specific prices particularly, as many of the stocks that we have today date only back to 1899 and later years.

Q. Do you consider yourself fairly well informed and familiar with the period from 1898 down to date as to general financial conditions, prices of securities, and other factors that would enter into a determination of a rate of return?

Mr. Slaff: That is an objectionable question, Mr. Examiner. The facts must speak as to whether the witness is qualified, and not whether the witness himself considers

—5214—

himself qualified. That is thoroughly irrelevant.

Mr. Cockley: I beg your pardon, but it is a perfectly usual question to put to an expert witness, whether he himself feels that he is qualified to express an opinion upon the subject on which he is asked to express an opinion. I have heard it asked many, many times in all kinds of courts.

Trial Examiner: If he didn't think so, he wouldn't be here.

Mr. Cockley: Well, that is probably so, but the question has been raised whether he can go back to this period.

The Witness: Perhaps I can answer that by a simple statement, that I have trained many bond salesmen and have lectured to them on the year-by-year changes in current conditions from the early 90's on. I don't know whether that qualifies me or not.

By Mr. Cockley:

Q. Now, Mr. Brown, you said you found that this rate of return investigation fell naturally into four periods.

Will you tell us what the first period is, and why you have selected that as a period? A. The first period seems to be from 1898, when the Company was formed, down to and including 1907.

During that period a very substantial part, the bulk of the sales of gas were known as field sales to gas and oil companies in West Virginia during that boom period in

—5215—

West Virginia.

By 1908, this proportion had dropped until about three-quarters of the gas sales were to commercial and domestic consumers.

Secondly, in May 1908, the Company issued a block of stock to refinance, in permanent form, the advances made by the parent company.

Thirdly, in May 1908, the Company paid its first cash dividend.

So that the period from 1898 to 1907 represents what I might call the early development period of the Company's history.

Q. And what, in your opinion, was the fair rate of return that the owners had a right to expect on money invested in plant account during this early development period?

Mr. Reeder: I object, and may the record show an objection to this question upon the ground that it calls for a conclusion which is proper only for the Federal Power Commission and not for this witness. It calls for no fact and no matter which this witness is especially qualified to testify upon as an expert.

It may well be that if counsel intended to show the actual cost of money to this Company at the time the investment was made, that would be a proper analogue to the original cost, but as I understand it, what he is now

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calling for is to have a series of rate cases over 40 years

and have this witness express a conclusion for the Commission only upon each one of those four or five periods into which he has divided that vast period of time.

I submit that that kind of inquiry is entirely and wholly irrelevant, immaterial and incompetent.

Trial Examiner: That was my thought exactly with respect to the qualifications of this witness to answer such a question as that. It doesn't seem to me that he is qualified as an expert for the purpose of determining what a reasonable rate of return might have been to that Company back in that period.

Now if you want to show what the cost of money was during that period, that is a different thing.

Mr. Cockley: Well, Mr. Examiner, it seems to me that perhaps we are confused by words a little bit. Can there be any doubt that a man of Mr. Brown's broad business experience and investment experience is perfectly qualified to say, during a development period of a new enterprise, as this was, as to the earnings that would have been demanded by investors to put money into that enterprise? That is the question I have asked him.

Trial Examiner: If you want to ask him that question, go ahead.

Mr. Cockley: Well, that is the question that I under-

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stood I did ask him. Perhaps I used "fair rate of return" in place of it. Let me rephrase the question.

By Mr. Cockley:

Q. In your opinion, what prospective earnings on their money would investors in that period have demanded in order to put money into the plant of such a property as the Hope Company?

Mr. Reeder: I want to object to that question upon the ground that it is an incomplete question and wholly unintelligible, standing alone. If counsel wants to go into

the question of what return the investor would demand upon his money for some specific period of time, which came down to and included the present, that might be material, but if he is going into the question of what return the investor demanded in 1902, that, I submit, is entirely irrelevant and immaterial to this inquiry.

Why should this Commission go into an historical study of that kind and into evidence that might have been relevant to a rate case in 1902?

Now I am objecting to this question as it stands, as irrelevant and immaterial to this inquiry.

Trial Examiner: Well, I think we have gotten right back to the original question.

Mr. Reeder: No, Your Honor, I am objecting now upon the ground that this question doesn't include any period of time. He says, "What rate of return would they demand"—

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Trial Examiner: (Interposing) In the period beginning 1898 to 1907, as I understand, or 1908.

Mr. Cockley: That is right.

Mr. Reeder: Does he mean for their investment for that period only, or for their investment from that period down to 1941, because that is the period of time that we are interested in.

Trial Examiner: I realize that, of course, and as I said before, there is a very serious question in my mind as to the relevancy of this evidence, but I have already in effect ruled on that.

The objection is overruled.

Mr. Slaff: It is understood, Mr. Examiner, that our objection extends to this entire line of inquiry, so that we need not repeat it specifically?

Trial Examiner: Yes, that will be understood.

Mr. Reeder: And may we have an exception?

Trial Examiner: You may have an exception.

Mr. Reeder: And may it be understood that our objection and exception runs to all this line of inquiry?

Trial Examiner: That will be understood, yes. Proceed.

The Witness: May I have the question read, please?

(The question was read by the reporter.)

The Witness: Not less than 15 to 20 percent.

—5219—

By Mr. Cockley:

Q. Will you state the factors that you took into consideration in arriving at that opinion? A. In the first place, this was a relatively new industry, it was a brand new enterprise in a young industry. There was substantially no growth in the natural gas industry until the late 80's, and the 90's showed a recession, largely due to the depression.

The history of the industry through the 80's and the 90's showed exploitation of local fields very largely, which were promoted by, in a few cases, municipalities, or a few public spirited citizens, or an occasional pioneer operator.

Those fields, in most instances, gave out. The only fields that continued were in Western Pennsylvania and in West Virginia, and a portion of Indiana.

As recently as December, 1903, the Ohio State geologists wrote an annual report which was very discouraging on the future of the natural gas industry.

Secondly, there had to be new markets developed. As I stated before, the first few years showed sales very largely in the field.

Thirdly, with the local fields only being exploited, a high rate of return was necessary to attract capital.

Fourthly, there was practically no transmission of gas beyond the local fields. The transmission of gas was in its

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infancy, at least.

Fifthly, the Standard Oil Company, in its history, showed a net return on its net assets of about 25 percent during that period, and I can't conceive of a Board of Directors investing in a new mining enterprise for less than 15 to 20 percent, when it was already showing a 25 percent return on its own assets.

Q. Now what is your next period, Mr. Brown, that you have taken, and why have you taken that period? Give us the reasons why you have taken that as the second period? A: The second period I call from 1908 to 1926, both inclusive.

The Hope Company had passed from its early development stage to what might be called a certain stage of maturity and permanency. There were several issues of bonds put out during this period, notably in 1917, the Southern California Gas Company, and many issues since. I quote that company because for many years it has been regarded as the highest grade natural gas company in the United States, and the only company which has ever issued a Aaa Moody rating bond.

Secondly, I end the period in 1926 because at about that time, through improved electric welding and other processes, there were long distance pipe lines from the western and southwestern fields to the large markets, St. Louis, Chicago, Minneapolis, Detroit, and so forth.

Q. And on what terms could new capital be attracted,

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in your opinion, to invest in a natural gas business such as Hope's, during that period? A. In my judgment, you could not attract capital into an enterprise like Hope, which remained essentially a mining enterprise, very much on all-fours with a mining company of the better grade like Anaconda and Kennecott and Phelps-Dodge, or like the oil-producing companies—for less than 12 percent during that period, and some more than 12 percent in certain of those years.

Q. Now will you state the considerations that lead you to that opinion? A. During a large part of that period the average return or the average earnings price ratio of mining and smelting companies was 13 percent, and the average earnings price ratio of oil-producing and refining companies was 14 percent. The period started out with a panic and a depression in 1907-1908; good business in 1909; then a period from 1910 to 1913 which was below normal, with the exception of a few months in 1912. 1914 was a very bad year, with business at a low ebb; it was impossible to float any securities of any kind except the very highest grade. The Stock Exchange was shut down for 4 or 5 months in the latter part of the year.

Then came the World War boom, which started in the spring of 1915, and virtually continued to the middle of 1920, but it was essentially a common stock period, although

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there were a few bonds issued, but practically no preferred stocks, and the earnings price ratio on those common stocks was quite high.

Then came the so-called inventory panic of the fall of 1920, with the depression lasting through 1921, with great difficulty in financing anything.

In 1921, the Southern California Gas Company put out two issues at better than a 7 percent yield basis, but only bonds of high grade could have been floated in 1921.

Mr. Knapp's Chart No. 1 in Exhibit 82-A, shows Moody Aaa bonds above 6 percent as compared with less than 3 percent today, and Moody's Baa bonds yielding above 8 percent, as compared with approximately 4½ percent today.

Then the period 1922 to 1926 was more normal, with a slight variation in 1923 and 1924, and good business in 1925 and 1926; but the rate of return was much higher during that period than it is today.

Q. During which period? A. From 1922 to 1926; in fact, during the whole period from 1908 to 1926.

Thirdly, the leading handbook on bonds, as recently as 1927, cautioned the investor with respect to bonds of natural gas properties, due to the prospective exhaustion of their supply.

So I rank the reasonable over-all return which an in-

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vestor would expect during the whole period, averaging it together, as not less than 12 percent, and in some of those years higher than that.

Q. Mr. Brown, will you state the fact as to whether or not the financing of natural gas companies during that period was a matter of private investment or accomplished through the public flotation of securities? A. There was occasionally a bond issue of relatively small amount sold in local markets, but not in national markets, dating back to 1900, on natural gas properties. I don't know of any preferred or common stock on a natural gas company that was floated by underwriters to the public until the end of this period.

There was a market for several issues which had been put out to the stockholders through early mergers—the National Fuel Gas, for instance. The earliest market I can find on Southern California Gas was 1923.

Q. Now are you talking about preferred or common? A. Preferred. The common was all owned by Pacific Lighting, which in turn had a common stock that was outstanding, but it also included electric properties.

So that my answer to your question would be that in this period, Hope might have been able to float an issue of bonds during several of these years, but could not have floated any bonds during other years in this period. It

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might have put out a common stock during a portion of that period, particularly in 1916, 1917, 1918 and 1919. It could

not have floated any common stock in 1920 or 1921. It might have been able to in 1922; it is very doubtful if it could in 1923 or 1924. It might have floated some common stock in 1925 and 1926. I doubt if it could have floated any preferred stock during any of those years.

Q. You have referred several times to the fact that it could put out an issue of bonds or could have sold some common stock. I ask you if there was any time during that period that it could have substantially recapitalized the corporation with new capital by the flotation of various classes of securities, such as is common today? A. No, sir, it could not. That is one reason why I ended the period at 1926, and when I come to my third period I will explain that.

Q. Now is there anything further you want to say concerning this period from 1908, your second period, to 1926? A. No, sir.

Mr. Slaff: Before you leave that, will you be good enough to state the name of the leading handbook to which you referred as cautioning investors about natural gas securities because of the possible exhaustion of the fields?

The Witness: The Principles of Bond Investment, by Lawrence Chamberlain, 1927 edition.

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By Mr. Cockley:

Q. Mr. Brown, will you tell us what your third period is, and why you have selected that? A. My third period is 1927 to 1934, both inclusive.

This period witnessed a widespread extension of market areas due to the long distance pipe lines. That aroused the interest of the investment banker and the investing public.

Prior to this period, there had been only occasional issues of bonds on natural gas properties. After the period started there were many issues of securities, with increased interest on the part of the public, and an in-

creased or rising quality rating of natural gas properties in the minds of the public.

The period includes the boom years of 1927, 1928 and 1929; the deep depression following the panic in the fall of 1929, and only a partial recovery in 1934. The reason I stopped at 1934 was because that was substantially the end of the normal money market, or the market for normal money rates.

Q. Well, in your opinion, on what terms could the capital requirements of the Hope Company during this period have been financed? A. The Hope Company still remained essentially a mining enterprise, and in my judgment could not have raised capital on an over-all basis of less than 10 to 11 percent, and it could not have refinanced itself in total during some of those years.

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Q. And will you tell us any other considerations that lead you to this opinion, other than you have mentioned?

A. While the years 1927, 1928 and 1929 were boom years, and it was essentially an era of common stocks, it might have been possible to have issued some bonds on the Hope property. At no time during the period would it have been as sound to have put out bonds as it would to have had an all common stock capital structure, and at no time during the period could it have sold stock for less than an 8 percent yield to the public, with a 2 percent addition, carried to surplus, and much of the time it couldn't have sold common stock at any price.

Q. Well, is it your testimony that the most-favorable terms it could have obtained during that period were the basis you have just described? A. It is.

Q. What is the fact during the few years when you say it might have sold a small issue of bonds—and, I suppose, or a small issue of preferred stock— A. (Interposing) That is correct.

Q. Was there any time during that period that it could have sold both with economy? A. No, there was no time during the period, in my judgment, where it could have put out three classes of securities.

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Q. And would there have been any economy in the cost of money to the Company for refinancing its needs, of putting out a small issue of bonds or preferred stock, with the balance common? A. Of course, bond money costs less than stock money, but in my judgment the saving by putting out a relatively modest amount of bonds would be more than offset by the higher cost of the common stock which necessarily carries a higher yield when it has senior securities ahead of it. So I see no net saving by financing during this period with bonds and common stock.

Q. Am I correct that your testimony, then, is that during this period this was a straight common stock risk? A. In my judgment, yes.

Q. Now what is your final period, and why have you selected that? A. My final period is from 1935 to date. The chief characteristic of this period has been the constantly declining money rates. That is very clearly shown in Mr. Knapp's exhibit. At the same time, there is a second factor there which I brought out a year ago in my direct testimony. There has been an improvement in the rating of senior securities of natural gas bonds during the past 3, or 3½ years.

Before this period, nearly all natural gas bonds ranked below, in rating, those of artificial gas bonds. The spread

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between those issues has now narrowed, and the first mortgage bonds of the higher grade natural gas companies now have a high investment rating. There are several issues carrying Moody's rating of Aa.

Q. And on what terms, during this period, is it your opinion that the financial requirements of the Hope Com-

pany could be met? A. In my testimony a year ago, I said not less than 8 percent, and I still stand by that.

Q. For the whole period? A. For the whole period.

Q. And are the reasons— A. (Interposing) The reasons are set forth in my prior testimony.

Now since January 1941, there has been a dip and a partial recovery in the price of bonds. There has been an improvement in the price of preferred stocks. There has been a very substantial dip in the price of common stocks of all utilities. So that the net cost of financing a utility today by bonds, preferred and common stock, in my judgment is slightly higher than it was on January 1. It certainly is not any lower, because the higher yields on common stocks today more than offset the improvement in preferred stock prices, with resultant lower yields, and the substantially no change in bond yields.

Q. How does the earnings price ratio of common stocks

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today compare with what it was, say, a year ago, or when you testified in June of 1940? A. The earnings price ratio of utility common stocks today is higher than it was a year ago.

Q. That is, you mean the price is lower? A. The price is lower and the yield is higher.

Q. The yield is higher? A. Yes.

Q. Than it was at the time you testified in the summer of 1940? A. That is correct.

**20. COMPANY WITNESS RHODES' EXHIBIT NO. 24
ENTITLED: "Necessary Annual Rates for Deprecia-
tion—Written Statement of George I. Rhodes"**

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WRITTEN STATEMENT OF GEORGE I. RHODES**1. Scope Of This Exhibit**

This exhibit sets forth and explains an engineering determination of the necessary annual allowances or rates for depreciation required to reimburse Hope Natural Gas Company for the annual depreciation suffered by its:

- A. Production system structures
- B. Production system pipe lines and appurtenances
- C. Transmission system structures
- D. Transmission system pipe lines and appurtenances
- E. Compressor station equipment
- F. General structures
- G. Office furniture and equipment
- H. Warehouse, shop and laboratory equipment
- I. Telephone and telegraph system

This determination is based on the actual depreciation experience of the Company from the beginning of business through 1938.

The property has been classified as above shown to meet the limitations of the Company's records of early depreciation experience. The appurtenances to pipe lines referred to above include rights of way and measuring and regulating equipment.

Allowances for drilling and cleaning equipment and for automobiles and trucks have not been determined in this exhibit because the depreciation on such equipment is now reflected in operating expenses through clearing accounts or their equivalent. Allowances for depreciation of wells, leaseholds and natural gas rights have not been determined in this exhibit, the necessary annual allowances for depletion of these properties being set forth in a separate Company exhibit containing the rate statement.

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2. Total Depreciation Suffered By The Company's Properties—Unrealized and Realized

Depreciation inevitably begins to take place when construction of a new natural gas property is complete. Corrosion begins in its pipe lines. Other kinds of property begin to wear out or deteriorate in various ways. For a considerable time the resulting depreciation causes no replacements of any kind. It accumulates or accrues in the property. It can be determined only by an inspection and study of the property. This accrued or accumulated depreciation is later herein referred to as "unrealized depreciation" since it has not as yet caused retirement losses.

As a natural gas property becomes older some of its parts such as short sections of pipe lines located in the most corrosive soils depreciate to such an extent that they must be renewed or replaced. Equipment is moved from place for various causes in the upkeep of the property. Whatever may be the cause of replacements or movements from place to place, the Company incurs a loss which is realized through the retirement of property. Generally the loss is the difference between the cost of the property retired and its salvage value. This loss is referred to as "realized depreciation."

If a natural gas property is inspected and studied before any property whatever has been retired or renewed the unrealized depreciation disclosed by inspection is the total depreciation suffered by the Company. After retirements have been made, however, an inspection and study disclose only that part of the total depreciation suffered which has not been eliminated by renewals.

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The total depreciation suffered by the Company's properties is thus the amount of the unrealized depreciation found by inspection and study to have accumulated in

the property, plus the amount of realized depreciation previously experienced as ascertained from the Company's records.

3. Basic Method Used In This Exhibit

The basic method used in this exhibit is to determine first the total amount of depreciation that has occurred in the Company's properties from the beginning to December 31, 1938, both unrealized and realized. If this total were divided by the total years the property was in service it would give the average annual amount of depreciation. Dividing this average annual amount by the average annual cost of the property exposed to depreciation would give the average annual rate as a percentage. This percentage, had it been applied to the undepreciated cost of the property from the beginning of its history to December 31, 1938, would have provided sufficient money to provide for all retirement losses experienced and would leave in the depreciation reserve on December 31, 1938 a sum equivalent to the accrued depreciation found to exist on that date.

Mathematically, of course, precisely the same percentage will be found by taking the total amount of depreciation, both unrealized and realized, for the entire period and dividing this by the sum of the costs of the property exposed to depreciation at the beginning of each of the years of exposure. This sum is sometimes referred to by accountants and others and later herein as the "dollar-years exposure to depreciation." This simpler computation is used in this exhibit.

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This basic method coordinates the Company's experience in the past both as to losses realized on the retirement of the property up to December 31, 1938, and the unrealized depreciation accumulated in the property as of that date, as set forth in a separate Company exhibit. It

produces a complete correlation of annual and accrued depreciation.

While the basic method is easily understood, the application of it for various reasons needs some further explanation. Accrued or unrealized depreciation existing on December 31, 1938, has been determined and set forth in a separate Company exhibit in terms of reproduction cost. The realized depreciation on the other hand has of necessity been determined on the basis of the Company's book retirement losses. Likewise the only available measure of the cost of the property at the beginning of each year from 1898 through 1938 is the cost heretofore capitalized on the Company's books, called "book cost" in this exhibit. In order, therefore, that the true percentage of depreciation may be determined these book costs have been converted into terms of reproduction cost.

In view of the Company's practices in recording current depreciation and particularly the requirements of the new system of accounts it is necessary to make certain adjustments to the book figures appearing in the Company's records which are explained in subsequent paragraphs.

4. Adjustments of the Company's Book Figures Related to Depreciation

The Company's past depreciation records were analyzed in detail from the commencement of business in 1898 to the end of 1938, including original vouchers and

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entries relating to retirements and retirement losses. Care was exercised to eliminate the effect of transfers from one account to another, to eliminate charges resulting from restoration of materials to the warehouse at less than book cost, and to eliminate errors in the charges. The results of this detailed analysis are summarized on Tables G to N at pages 25 to 32 of this exhibit. These tables show

for each year for the several classes of property as grouped in this study the Company's retirements and retirement losses per books. They also show the cost of these properties as heretofore capitalized on the Company's books at January 1 of each year. These book figures constitute the basic data on which realized depreciation has been determined and adjusted in this exhibit.

The Company's past book depreciation figures differ from current requirements or otherwise require adjustment in four particulars:

- (a) There have been some items of property retired from service whose retirement on the books has been deferred. These are called "deferred retirements" in this exhibit.
- (b) A full determination of depreciation experience requires consideration of the depreciation on purchased property before the date of purchase.
- (c) In pipe line accounts labor has usually been retired and charged as depreciation only in the case of lines lifted and not replaced. Present practice requires charging to depreciation the labor of installing all materials retired.
- (d) For many years the cost of abandoning property has been charged to operating expense. Present practice requires charging to depreciation the cost of abandoning all property retired.

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The basic methods of adjusting the book figures for these matters and correlating them with the accrued depreciation found to exist in the property at the end of 1938 are described in the succeeding subsections.

(a). Adjustments for deferred retirements

—8—

(b). Adjustments for purchased property

—9—

(c). *Adjustment to reflect full retirement of labor costs*

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—11—

(d). *Adjustment for cost of abandoning property*

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5. The Company's Book Depreciation Figures Expressed In Terms of Reproduction Cost

As heretofore noted, the figures as to the Company's past depreciation experience must be expressed in terms of the reproduction cost before they can be correlated with the accrued depreciation found to exist in the property at December 31, 1938. This is accomplished by the simple

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operation of multiplying the appropriate depreciation figures in terms of book cost by the ratio of the reproduction cost of the property as of December 31, 1938 to the book cost of the property at that date. These adjusting factors are determined on Table F on page 24.

6. Determination of the Company's Retirements and Realized Depreciation

The data as to the Company's total book retirements and the adjustments to these book figures are shown by Table C at page 21.

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The amount of realized depreciation (retirements less salvage) suffered by the Company over the years has been determined from its records and from the adjusted retirements shown in Table C. This determination is shown by Table B on page 20.

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7. Determination of Unrealized Depreciation

The unrealized depreciation existing in the Company's properties at December 31, 1938 in terms of reproduction cost is stated for the various classes of property on Table D. In this table column (1) lists the several classes of property. Column (2) shows the reproduction cost at December 31, 1938 as taken from the Company's reproduction cost exhibit. Column (5) shows the accrued or unrealized depreciation existing in the several classes of property at December 31, 1938 as found by inspection, observation and study of the properties as set forth in a separate Company exhibit. Column (4) expresses this existing accrued or unrealized depreciation in percentages of the cost new.

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8. Determination of Dollar-Years Exposure to Depreciation

The determination of the dollar-years exposure to depreciation for the several classes of the Company's property is shown by Table E.

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9. Determination of Necessary Annual Depreciation Rates

All of the elements entering into a determination of the necessary annual allowances or rates for depreciation

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are described above together with the adjustments applied to book figures to make them applicable to the methods currently required to be followed in handling depreciation. The determinations of the necessary annual allowances for depreciation are all made on Table A.

Column (1) shows the class of property for which the annual allowances or rates of depreciation are determined. As explained above, these classes of property were defined by the limitations of the early retirement records.

Column (2) shows the total realized depreciation suffered by the property taken from column (8) of Table B.

Column (3) shows the amount of unrealized depreciation accumulated in the property taken from column (5) of Table D.

Column (4) shows the total depreciation suffered by the Company ~~to~~ December 31, 1938. It is the sum of the realized depreciation, column (2), and the unrealized depreciation, column (3), for each class of property.

Column (5) shows the dollar-years exposure of the property to depreciation taken from column (9) of Table E.

Column (6) shows the final determination of the necessary annual allowances or rates for depreciation expressed as a percentage applicable to cost new. It is the result obtained by dividing the total dollar amount of all depreciation suffered to December 31, 1938 shown by column (4) by the total dollar-years exposure to depreciation up to that date as shown by column (5).

Column (7) shows the corresponding rates applicable to the depreciated cost of the property determined by dividing the rates in column (6) by the per cent condition of the property as shown in column (3) of Table D.

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The annual rate of depreciation of telephone and telegraph system property could not be determined by the above method because the Company has recorded no realized depreciation of this kind of property. A study of pole replacements and the condition of the property as inspected indicates that 4.0 per cent per year is a fair allowance for depreciation applicable to reproduction cost new and 5.9 per cent per year applicable to reproduction cost new less depreciation.

In summary of Table A the necessary annual allowances or rates of depreciation applicable to costs new and less depreciation of the several classes of the Company's property are as follows:

Class of Property	Annual Rate of Depreciation Applicable To Reproduction Cost	
	New	Depreciated
A. Production system structures.....	4.52%	8.04%
B. Production system pipe lines and appurtenances	2.04	2.71
C. Transmission system structures.....	2.64	3.67
D. Transmission system pipe lines and appurtenances	1.38	1.61
E. Compressor station equipment.....	1.76	2.17
F. General structures	2.59	3.55
G. Office furniture and equipment.....	3.41	4.87
H. Warehouse, shop and laboratory equipment	3.29	4.37
I. Telephone and telegraph system.....	4.00	5.88
Average	1.80%	2.32%

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These annual rates of depreciation as heretofore stated are determined from the Company's actual depreciation experience over the entire history of its properties and correlate annual depreciation with the accrued depreciation deducted in the Company's exhibits from reproduction cost new. They constitute minimum necessary rates in that they provide for no contingencies except such as have occurred in the past.

SIGNED at Clarksburg, West Virginia, this May 20, 1940.

GEORGE L. RHODES.

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Table A

HOPE NATURAL GAS COMPANY

Determination of Necessary Annual Depreciation Rates

Based on Realized Depreciation Up To December 31, 1938, Unrealized Depreciation Accrued at December 31, 1938
and Dollar-Years Property Has Been Exposed to Depreciation

Classes of Property (1)	Realized	Unrealized	Total	Dollar-Years Exposure to Depreciation (From Table E) (5)	Necessary Annual Depreciation Rates Applicable To Reproduction Cost	
	Depreciation to December 31, 1938 (From Table B) (2)	Depreciation at December 31, 1938 (From Table D) (3)	Depreciation Suffered to December 31, 1938 (4) = (2) + (3)		New (6) = (4) ÷ (5)	Depreciated (7)
Production System Property						
(1) Structures	\$ 190,016	\$ 217,115	\$ 407,131	\$ 8,997,669	4.52%	8.04%
(2) Pipe Lines and Appurtenances	4,938,471	5,082,534	10,021,005	491,976,896	2.04	2.71
Transmission System Property						
(3) Structures	578,841	622,148	1,200,989	45,468,543	2.64	3.67
(4) Pipe Lines and Appurtenances	1,480,634	3,873,141	5,353,775	416,739,397	1.28	1.61
(5) Compressor Station Equipment	1,534,547	2,092,052	3,626,599	205,717,473	1.76	2.17
General Property						
(6) Structures	6,686	89,510	96,196	3,709,176	2.59	3.55
(7) Office Furniture and Equipment	83,877	70,267	154,144	4,520,997	3.41	4.87
(8) Warehouse, Shop and Laboratory Equipment ..	106,239	100,270	206,509	6,281,999	3.29	4.37
(9) Telephone and Telegraph System	—	—	—	—	4.00	5.88
Average Annual Rate					1.80%	2.32%

21. **COMPANY WITNESS SULLIVAN'S EXHIBIT NO. 126 ENTITLED: "Average Return from the Company's Export Business, 1937-1940, Based on the Company's Claims as to Rate Base as of December 31, 1938 and Operating Expenses"**
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HOPE NATURAL GAS COMPANY

Average Return from the Company's Export Business, 1937-1940,

Based on the Company's Claims as to Rate Base as of December 31, 1938 and Operating Expenses*

Reproduction Cost New Less Depreciation
of Production Plant, Transmission Plant
and General Plant (Jointly Used) as of
December 31, 1938 (A)

	1937	1938	1939	Average of Years 1937-1939	1940	Average of Years 1937-1940
(1) Rate Base	\$66,360,837	\$66,360,837	\$66,360,837	\$66,360,837	\$66,360,837	\$66,360,837
Revenues from Export Business						
Revenue from Gas Sales to:						
(2) The East Ohio Gas Company	\$12,757,670	\$11,157,537	\$12,359,500	\$12,091,569	\$11,726,736	\$12,750,361
(3) The Peoples Natural Gas Company	1,349,815	1,105,160	1,487,680	1,314,218	3,749,366	1,923,005
(4) The River Gas Company	115,725	77,915	83,174	92,272	136,063	103,219
(5) Fayette County Gas Company	267,531	263,966	264,725	265,407	270,618	266,710
(6) The Manufacturers Light & Heat Company	1,425,050	1,258,602	787,738	1,157,130	706,130	1,044,380
(7) Total Revenues from Export Business	\$15,915,791	\$13,863,180	\$14,982,817	\$14,920,596	\$19,588,913	\$16,087,675
Cost of Export Gas Exclusive of Return						
(8) Production Expenses Exclusive of Exploration and Development Costs	\$ 2,146,382	\$ 2,190,148	\$ 1,906,524	\$ 2,081,018	\$ 2,010,170	\$ 2,062,306
(9) Exploration and Development Costs	518,581	633,272	508,832	553,562	407,920	517,151
(10) Gas Purchased	8,150,053	7,650,099	7,680,938	7,827,030	8,538,973	8,005,916
(11) Transmission Expenses	1,798,308	1,695,381	1,728,006	1,740,565	2,240,591	1,865,571
(12) General Administrative Expenses	1,064,224	1,063,471	1,034,758	1,054,151	1,014,206	1,044,165
(13) Taxes at Rates in Effect Exclusive of Federal Income Taxes	1,075,220	1,019,757	1,078,979	1,057,985	1,211,461	1,096,355
(14) Other Expenses	10,522	12,481	—	7,668	—	5,751
(15) 10 Year Amortization of Property Reclassification Expense	100,595	100,595	100,595	100,595	100,595	100,595
(16) 10 Year Amortization of F. P. C. Rate Investigation Expense	122,950	122,950	122,950	122,950	122,950	122,950
(17) Depletion of Wells	625,129	434,997	558,871	539,666	827,743	611,685
(18) Depletion of Operated Leases	26,624	18,569	23,826	23,006	35,257	26,069
(19) Depreciation of Other Property	984,850	984,850	984,850	984,850	984,850	984,850
(20) Credit: Gas Used in Own Operations	(458,977)	(459,725)	(471,686)	(463,463)	(582,576)	(493,241)
(21) Credit: Other Revenue	(525,784)	(440,787)	(449,492)	(462,004)	(392,638)	(444,663)
(22) Credit: Revenue from Local Distribution of Gas in West Virginia Less Specific Distribution Costs	(2,690,096)	(2,002,247)	(2,312,984)	(2,335,109)	(2,695,796)	(2,425,381)
(23) Cost of Deep Test Well Chargeable to Non-Productive Well Drilling Expense for 1940	—	—	—	—	165,963	41,491
(24) Federal Income Taxes on Basis of Tax Rates in Effect	324,758	54,239	228,938	—	969,889	—
(25) Federal Income Tax at Rate of 24 Per Cent Plus Probable 6 Per Cent Surtax	—	—	—	301,044	—	507,589
(26) Increases in Payrolls during Years 1940 and 1941 Not Reflected in Operating Expenses	—	—	—	202,172	—	202,172
(27) Increase in Unemployment Tax to Reflect Present 3 per Cent Tax Rate in 1937	—	—	—	9,324	—	6,992
(28) Increase in West Virginia Property Tax Assessment in 1941	—	—	—	81,751	—	81,751
(29) Total Cost of Export Gas Exclusive of Return	\$13,273,339	\$13,078,100	\$12,753,905	\$13,426,761	\$14,959,558	\$13,920,265
Net Return from Export Business						
(30) Amount	\$ 2,642,452	\$ 785,080	\$ 2,228,912	\$ 1,493,835	\$ 4,629,355	\$ 2,167,410
(31) Per Cent Return	3.98%	1.18%	3.36%	2.25%	6.98%	3.27%

Notes: () Parentheses denote red figures.

* The Company's figures appearing on this statement do not reflect any increase in rate base due to capital additions or increase in valuation subsequent to December 31, 1938. Also the Company expenses for the individual years 1937, 1938, 1939 and 1940 do not include the increase in taxes or payrolls which will be incurred in the future as shown by the testimony presented at the hearings commencing July 7, 1941, these increased expenses being reflected only in the 3 year and 4 year average figures.

(A) Including the nominal acquisition cost of leaseholds, gas rights and royalties and working capital, but excluding property used to transport coke oven gas and going concern costs or value.

22. TESTIMONY OF COMPANY WITNESS EUGENE P. SULLIVAN AS TO EXHIBIT NO. 126 SHOWING AVERAGE RETURN FROM THE COMPANY'S EXPORT BUSINESS, WEDNESDAY, JULY 16, 1941, RECORD PAGES 6198-6208, 6210-6212, 6215-6216, 6218, 6227.

—6198—

Mr. Milde: May I have marked as Exhibit No. 126 a statement entitled "Average Return from the Company's Export Business, 1937-1940, Based on the Company's Claims as to Rate Base as of December 31, 1938 and Operating Expenses"?

Trial Examiner: It may be so marked.

(The statement referred to was marked as Exhibit No. 126 for identification.)

DIRECT EXAMINATION by Mr. Milde (Continued).

Q. Mr. Sullivan, I hand you Exhibit No. 126 for identification, entitled as I have just stated, and ask you if you prepared the statement contained in this exhibit? A. I did.

Mr. Milde: Mr. Examiner, before I interrogate Mr. Sullivan about this statement, I would like to say just one thing: Our view of the case is that the normal average experience of the company is fully reflected by the company's operating experience during the years 1937, 1938 and 1939, and we have not heretofore put in figures for 1940 for that reason.

However, the Commission's staff has included figures for 1940, and in order that our figures could be compared to theirs, we have in this exhibit also set out the 1940 results

—6199—

of operation as we see them, and the average of the years 1937-1940, as well as the average for the three years I previously mentioned.

I just wanted to make that statement to make it perfectly clear that we do not intend, by offering this exhibit and some of the other subsequent exhibits, which set out our figures for 1940, to deviate in any way from our claim, which we think will be supported by the evidence, that the normal average operating experience of the company, on the basis of which future rates should be set, is fully and adequately revealed by the operating conditions and results of the three-year period, 1937-1939, inclusive.

Trial Examiner: These figures shown under 1940, then, in this exhibit, are not the same as the figures shown by Commission counsel's exhibit?

Mr. Milde: No, these are our figures for 1940, and we put them in, in order that they could be compared with the Commission staff's exhibit.

By Mr. Milde:

Q. Mr. Sullivan, will you explain very briefly what the statement in Exhibit 126 shows? A. This statement shows the average return from the company's export business during the period 1937 to 1940, based on the company's claims as to rate base as of December 31, 1938, and operating expenses.

—6200—

In arriving at net return from the export business, the revenue from the local sale of gas in West Virginia less specific distribution costs has been credited to production, transmission and general expenses.

Q. Is that the same method that the company used in its original rate statement, Exhibit No. 37 and— A. (Interposing) Yes, the figures appearing under the column headed "Average of Years 1937-1939" correspond with those presented in Company Exhibit 37.

Q. Let me ask you also, Mr. Sullivan, whether that method of handling West Virginia revenues as a credit against the cost of export gas, was not also used by Mr.

Dunn of the Commission's staff in Exhibit No. 90? A. It was. Mr. Dunn did set forth the results on the basis of the Commission examiners' rate base and expenses, in Exhibit No. 90.

Q. And that method assumes that the full contribution of the West Virginia business by way of revenues over and above specific expenses, should be applied in reduction of the cost of export gas? A. It does.

Q. Will you proceed with the explanation? A. Referring to the column headed "Average of Years 1937-1939," which is the same as that appearing in Exhibit No. 37, except as to the items of amortization of property re-

—6201—

classification expense and FPC rate investigation expense—

Q. (Interposing) What are the numbers of those? A. Those are items Nos. 15 and 16.

Q. And what is the difference? A. In this exhibit these costs are based on amortizing the total cost of these items over a 10-year period, and providing 8 percent interest on the unamortized balance.

Q. Well, you use there the figures that you show in Exhibit No. 125? A. That is correct.

Q. And in the company's original rate statement, you used, or Mr. Rhodes used, the 5-year amortization period?

A. The 5-year amortization period applied to a preliminary estimate of this expense of \$1,250,000.

Q. For the two expenses? A. Yes.

Q. Will you proceed? A. On line 25 is set forth the Federal income taxes at the rate of 24 percent, plus probably 6 percent surtax. The figures in this exhibit are based on those tax rates, while in Exhibit 37 they were based on the 18 percent tax rate which was in effect at the time Exhibit 37 was prepared.

Q. Well, in line 24, don't you show for the individual years the income taxes at the rates actually in effect? A.

—6202—

Yes, the figures for the individual years appearing on this statement are based on the tax rates and labor rates in effect, and in the three and four year average columns are included the taxes on the basis of the present tax rates, and the operating expenses have been adjusted to include the increase in pay rolls not reflected in these years' operating expenses.

Q. That was shown in one of Mr. Chisler's exhibits?

A. Yes, that was taken from Exhibit No. 107 as to the increase in pay rolls, and Exhibit No. 109 for the increase in West Virginia tax in 1941 due to the increase in West Virginia assessment.

Trial Examiner: What exhibit was that last one?

The Witness: 109.

By Mr. Milde:

Q. Well, then, let me ask you if this isn't the substance of how these statements are set up.

For the individual years you show the operating results under the pay roll and tax rates that were actually in effect? A. That is correct.

Q. But when you average that expense to get some idea as to the future, you include present Federal income tax rates and the present West Virginia property tax payment, or the additional tax payment, and the present pay roll, rather than the pay roll in the past; is that the substance of what this is? A. That is correct.

—6203—

There are also some minor adjustments in the figures appearing in Exhibit No. 37.

—6204—

Q. Now, you have explained generally that your 1937, 1938, 1939 figures are the same as Exhibit 37, subject to these changes you have mentioned? A. That is correct.

Q. What are these 1940 figures? A. The 1940 figures were determined from the company's books, and all adjustments were made to conform with the adjusted expenses as previously presented in Exhibit 37.

Also, for the year 1940, the expenses have been adjusted to include the cost of the deep-test well chargeable to non-productive well drilling expense for 1940, as shown in the exhibit presented by Mr. Chisler, Exhibit 110.

Q. And except for any modifications you have made in your testimony just now, these 1940 figures are set up in the same general form as the company's figures for 1937 to 1939? A. They are.

On the last line of this statement, line 31, is shown the average return earned during the average of the years 1937 to 1939, on the reproduction cost new less depreciation of the company's production, transmission and general properties, in the amount of 2.25 percent.

Q. And what do you show for the year 1940? A. The year 1940 by itself shows a return of 6.98 percent, and the

—6205—

average return during the four years, 1937 to 1940, amounts to 3.27 percent.

Q. And are the notes on page 2 of this exhibit to be read as part of your statement? A. They are.

Mr. Milde: I offer in evidence Exhibit No. 126.

Mr. Reeder: May our objection be noted on the same grounds as to the previous exhibit?

Mr. Springer: May we have ruling reserved until cross examination is completed?

Trial Examiner: All right, go ahead.

CROSS EXAMINATION by Mr. Springer.

Q. Mr. Sullivan, referring to Exhibit 126, on line 24, Federal income taxes on basis of tax rates in effect,—take the first column, for example, \$324,758 for 1937? A. Yes.

Q. Is that the actual amount of taxes paid by the Hope Natural Gas Company in that year? A. No, the taxes paid have been adjusted to reflect the company's adjustments to operating expenses which would affect the Federal income tax. This computation is shown in a work sheet which will be presented as an exhibit.

Q. Do you conclude from your exhibit that the Hope Company would have paid more Federal income tax than it

—6206—

actually paid? A. This expense is based on the income tax the company would have paid if they received the additional revenues from gasoline royalties, and their operating expenses were reduced, due to reducing the price of coke-oven gas purchased from the Domestic Coke Corporation.

Q. Do you know whether or not the Hope Natural Gas Company plans to pay a deficiency assessment on its past taxes for 1937, 1938, 1939 and 1940, that you have indicated here? A. No, I do not, but I do think that if we consider for these years that they have additional revenue, that in order to be clear we must compute the additional taxes that would be payable on that additional revenue.

Q. Although you don't think the company will file an amended return and pay the additional taxes on the years you have set out in this exhibit? A. I don't know as to that.

Q. Now, the next line, line 25, Federal income tax at rate of 24 percent plus probable 6 percent surtax,—you show there in the column "Average of Years 1937-1939" the amount of \$301,044, and in the column captioned "Average of Years 1937-1940" you show \$507,580.

Has the company ever paid that probable 6 percent

—6207—

surtax? A. No, that probable 6 percent surtax is not yet in effect.

Q. Yet, you included in an average for the past years?

A. But if the average for the past years is to be used in

testing the reasonableness of the rates in the future, the past years' expenses must be adjusted for known increases in taxes and pay rolls.

—6208—

Q. Did you hear the testimony of Mr. Tonkin that there is an unusual increase in the Hope Natural Gas Company's sales? A. I didn't hear Mr. Tonkin's testimony, but I do know of the increase in the sales. But I also have been informed that all that the present property could be expected to do was the experience that was achieved in the average of the years 1937 to 1939.

Q. Assuming that Hope Natural Gas Company's rates are reduced \$1,000,000 on an annual basis, what kind of a test would your average figure give in that case? A. If the rates were reduced \$1,000,000, I believe that the income taxes should be reduced 30 percent of that, or \$300,000, which would leave an income tax of \$1,044. Likewise, if they were increased \$1,000,000, that tax should be increased to \$600,000.

—6210—

Q. You didn't make any adjustments for known increases in revenues, did you? A. No, there is no adjustment to be made for known increases in revenues from the property as it existed at that period. By "existed," I mean the extent of the properties in this period.

Q. Well, you take for your exhibit future increases in expenses, but you ignore future increases in revenues? A. No, they haven't been ignored because it is the company's view that all that could be expected out of the property that existed on December 31, 1938 are sales that were apt to be experienced in that period.

Q. Of course, you know that the year 1940 showed a favorable operating result picture, about \$5,000,000 on your

exhibit, in line 7, over the average of 1937 to 1939? A. Yes, I know that the sales for the year 1940 were substantially in excess of the average for the period 1937 to 1939.

—6211—

but this rate could only be maintained for a short period without substantial additions to the property.

Q. How do you know that? A. Well, I have been around these properties for about 10 years, and that is my impression, and while I am not testifying to it, it comes from discussions and what I believe to be so.

—6212—

Q. Well, in your own exhibit, for the very next column, 1940, you show an increase in revenues, yet for your column average years of 1937 to 1939, you studiously include all known future expenses, but seem to leave out known increased revenues for 1940? A. Well, that is for the reason that it is our view that sales that were achieved during the years 1937 to 1939 would be all that the present property would be able to do, except for a short period of time, you would get a spurt in there, but you would have to make it up very shortly.

Q. Mr. Sullivan, in your column headed "Average of Years 1937-1939," and the figures appearing opposite line 25 and line 26 and line 28, which we have discussed as being expenses which will be incurred in the future, with an increase over the past years, they all affect your total in line 31, percent rate of return of 2.25 percent, do they not? A. Yes.

—6215—

Q. Now do you think that you can set up an equitable standard for an average of any number of past years by taking into consideration only the known increase in operating expenses for the future, without taking into considera-

tion the known increases in revenues for the future? A. Well, the known increases in operating expenses and revenues, as applicable to the property as it existed at December 31, 1938, are reflected in this exhibit. There are going to be increases in expenses, but according to the testimony there will be no increase in revenues from the present properties, that is, those increases in revenues will only come through substantial additions to the present property.

Q. Do you know that there is an exhibit in this case comparing the first three months of 1941 with 1940 revenues, which shows a substantial increase in 1941 over 1940?

A. I know that there is such an exhibit, yes.

Mr. Milde: For the first three months.

The Witness: Yes.

By Mr. Springer:

Q. You still didn't consider that in your Exhibit 126?

A. Yes, it was given consideration at the time that this exhibit was made up.

—6216—

Q. Where does that appear in Exhibit 126? A. It is reflected by considering that, from the property as it existed in 1938, there could only be supplied from that property the average sales for the period 1937 to 1939, and any additional sales, except for a short period, would have to be supplied through substantial additions to the plant.

Q. Do you know whether or not there was any substantial addition to the Hope Company property in 1940 as compared with 1939, where your exhibit shows, in line 7, an increase in revenues of \$5,000,000? A. I am not familiar with those figures, but I do know that if the sales continue at that rate, there will very shortly have to be substantial additions.

—6218—

Q. Now, Mr. Sullivan, did you deduct the accrued depletion from the rate base for your exhibit? A. No, the rate base used in this exhibit is the reproduction cost new less depreciation of the company's production, transmission and general properties as of December 31, 1938, and does not reflect any capital additions or increases in valuation due to increase in prices subsequent to that date, nor any additional accrued depreciation that has taken place in the company's properties since that date.

Q. And it reflects no retirements? A. No retirements and no additions.

* * * * *

—6227—

RE-DIRECT EXAMINATION by Mr. Milde.

Q. Mr. Sullivan, referring to your average columns for '37 to '39 and '37 to '40, as shown on page 1 of Exhibit 126, did I understand you to state that these increases in payrolls and this increase in Federal income tax rate, and increase in the unemployment tax, and the increase in the West Virginia property tax assessment are known increases in cost which have no reference to the amount of gas that the company might handle? A. That is correct.

Q. In other words, your view is that whether the company sells 50 billion, or 60 billion, or 40 billion, those expenses will be incurred irrespective—those increased expenses will be incurred irrespective of the volume of gas handled? A. Yes, I believe they will.

Mr. Milde: That is all.

* * * * *

**23. COMMISSION WITNESS DUNN'S EXHIBIT NO. 90
ENTITLED: "Rate of Return Earned on Original
Cost Base Years 1937 to 1940, Inclusive."**

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WRITTEN STATEMENT

The attached schedules have been prepared to summarize the plant costs, reserves and operating expenses for the four year period 1937 to 1940, inclusive, to show the profit earned and the rate of return on the original cost base. There are set forth certain rate adjustments proposed by the examiners which have not been made in the underlying exhibits, but are included here for the purpose of summarizing all costs expected to increase or decrease income in the future.

Return Earned on Original Cost Base:

Schedule No. 1 shows the average original cost base in the amount of \$31,281,373. This amount includes production, transmission, distribution and general plant with the related reserves for depreciation and depletion deducted and the allowance for working capital added.

Net Operating Revenues are shown in the amount of \$4,125,399 as the annual average for the four year period. The determination of net operating revenues, as adjusted, is shown by the income statements summarized on Schedule No. 1A. The expenses of the four year period are expected to serve as a guide for future operating costs; therefore, certain non-recurring expenses are not included in Schedule No. 1.

—2—

Exploration and Development Costs:

The actual costs and losses as set forth in accounts 510, 511 and 512 have been included as a deduction from net operating revenues for the four year period. Due to cancellations of unoperated acreage, delay rental cost is expected to be reduced in the future. However, the company is starting a program of exploratory deep drilling and there is a known loss on the first of these deep wells of

approximately \$200,000.00 due to a well completed dry in 1941. For this reason it is believed proper to include the full amount of exploration and development costs as shown.

Interest on Unoperated Acreage:

Interest on unoperated acreage has been included as a deduction from net operating revenues. The investment has been classified as Gas Plant Held for Future Use which is not included in Gas Plant in Service. The examiners propose the allowance in operating expenses of interest as a carrying cost of the investment. A rate of 6% has been used pending the decision by the Commission as to a fair rate of interest.

The minor adjustment on Gas Plant Held for Future Use relates to adjusting entries 338 and 342, Exhibit No. 57A. Certain wells and field lines not used in prior years were placed in service in 1940.

It is proposed to amortize property reclassification and rate case expenditures over a period of ten years, being a period of six years in the future.

—3—

Adjustment of Income Taxes:

The income taxes actually paid were included in the taxes account. This adjustment removes the Federal Income Taxes pending the determination of a fair return by the Commission and the computation of the indicated taxes on income at the latest tax rate.

For Federal Income Tax purposes certain deductions and allowances are made which are not recorded on the books or set forth in the examiners' income statements. To illustrate a method for the Commission to use in estimating an allowance for future income taxes, giving effect to whatever reduction in revenues may be ordered by the Commission, the following tabulation is submitted:

	1937	1938	1939	1940	Average
Income Taxes Paid	\$ 282,315	\$ 17,515	\$ 191,524	\$ 912,313	\$ 350,916
Income Tax Rate	14.9386%	16.5%	16.5%	24%	—
Net Taxable Income	\$1,889,830	\$106,150	\$1,160,733	\$3,801,304	\$1,739,504
Assumed Reduction (for illustration only)					1,000,000
Revised Net Taxable Income					739,504
Tax Rate in Effect					.24
Allowance for Income Tax (illustrative only)					\$ 177,481

Schedule No. 1 shows the annual average return earned in the amount of \$3,809,201 and the average rate of return earned on the original cost base as 12.18%.

Return Earned on Original Cost Base, Exclusive of Distribution Plant, using Company Method.

The company's method of determining return applicable to interstate sales avoids an allocation of costs to West Virginia domestic and industrial consumers. The rates to these consumers are subject to West Virginia regulation, and such sales amount to less than 20% of the total.

Company Exhibit No. 37 sets forth certain reasons why the method of crediting the revenue received from the local distribution of gas in West Virginia in excess of specific distribution costs to the production, transmission and general costs, should be adopted.

“The return is worked out on the premise that the Company's local West Virginia business is unavoidable in carrying out its major business of exporting gas from West Virginia; and that these local sales being subject to West Virginia regulation, the remainder of the gross revenues therefrom after deducting specific distribution costs, is the full contribution of the West Virginia consumers towards the costs incurred jointly on account of all gas sold. The cost of the gas exported from the state is thus the Company's total production, transmission and general expenses after crediting this remainder of the revenue from

local distribution of gas after deducting specific distribution costs."

Schedule No. 2 sets forth the plant costs, revenues and operating costs which are taken from the other accounting exhibits. Schedule No. 2A shows the gas service revenues other than interstate sales and the specific costs which have

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been deducted. Return is computed at an assumed 6% on net original cost of distribution plant, including an allowance for working capital.

Schedule No. 1 shows the annual average rate of return earned at 12.18% on the total base as compared with 12.53% on the interstate base, shown by Schedule No. 2. The difference in return earned and the rate is \$104,535, representing the return on distribution plant included in Schedule No. 2.

Washington, D. C.

June 2, 1941.

EDWARD L. DUNN,

*Examiner in Charge of
Field Assignment.*

Approved:

W. E. BAKER,

Chief Accountant.

CHAS. W. SMITH,

*Chief, Bureau of Accounts,
Finance and Rates.*

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Schedule No. 1

HOPE NATURAL GAS COMPANY

Rate of Return Earned on Original Cost Base
Years 1937 to 1940, Inclusive

	Year Ended December, 31				4 Year Average
	1937	1938	1939	1940	
Original Cost of Gas Plant in Service.....	Same as	\$54,022,699	\$54,020,330	\$55,174,551	\$54,310,070
Reserves for Depreciation and Depletion.....	1938	24,807,523	25,423,364	26,076,378	25,278,697
Net Original Cost.....		29,215,176	28,596,966	29,098,173	29,031,373
Working Capital.....		2,250,000	2,250,000	2,250,000	2,250,000
Original Cost Base.....	\$31,465,176	\$31,465,176	\$30,846,966	\$31,348,173	\$31,281,373
Net Operating Revenues.....	\$ 4,111,672	\$ 2,133,121	\$ 3,874,557	\$ 6,382,247	\$ 4,125,399
Examiners' Rate Adjustments:					
Exploration and Development Costs.....	501,076	612,242	500,344	407,920	505,396
6% Interest on Unoperated Acreage.....	35,063	35,063	35,063	35,063	35,063
Adjustment of Gas Plant Held for Future Use.....				6,619	1,655
Amortization of Rate Case Expenses.....	125,000	125,000	125,000	125,000	125,000
Adjustment of Income Taxes.....	(282,315)	(17,515)	(191,521)	(912,313)	(350,916)
Return Earned.....	\$ 3,732,848	\$ 1,378,331	\$ 3,405,679	\$ 6,719,958	\$ 3,809,201
Rate of Return Earned.....	11.86%	4.38%	11.04%	21.45%	12.18%

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Docket G-113

Schedule No. 2

HOPE NATURAL GAS COMPANY

Rate of Return Earned on Original Cost Base, Exclusive of Distribution Plant,
Using Company Method

Description	1937	1938	1939	1940	Average 1937-1940
(a)	(b)	(c)	(d)	(e)	
Original Cost of Gas Plant in Service, Exclusive of Distribution Plant	Same as 1938	\$51,207,621	\$51,099,024	\$52,064,557	\$51,394,706
Reserves for Depreciation and Depletion		23,501,356	24,072,167	24,683,271	23,939,538
Net Original Cost		27,706,265	27,026,857	27,381,286	27,455,168
Working Capital		2,100,000	2,100,000	2,100,000	2,100,000
Original Cost Base for Interstate Sales	\$29,806,265	\$29,806,265	\$29,126,857	\$29,481,286	\$29,555,168
Operating Revenues from Interstate Business					
The East Ohio Gas Company	\$12,757,670	\$11,157,537	\$12,359,500	\$14,725,648	\$12,750,989
The Peoples Natural Gas Company	1,244,635	1,019,044	1,371,757	3,457,207	1,773,461
The River Gas Company	115,725	77,915	83,174	137,151	103,491
Fayette County Gas Company	267,531	263,966	264,725	270,618	266,710
The Manufacturers Light & Heat Company	1,425,050	1,258,602	787,738	706,131	1,044,380
Total Interstate Revenues	\$15,810,611	\$13,777,064	\$14,866,894	\$19,296,755	\$15,937,831
Operating Revenue Deductions, exclusive of Specific Distribution Costs					
Natural Gas Production	\$ 1,106,896	\$ 1,367,877	\$ 1,135,864	\$ 1,214,307	\$ 1,206,236
Other Production Expenses	8,160,524	7,671,133	7,630,871	8,493,753	7,989,070
Transmission Expenses	1,697,806	1,603,809	1,432,856	1,761,019	1,623,872
Administrative and General Expenses	913,999	886,828	808,908	839,506	862,311
Depreciation	1,346,945	1,262,391	1,214,641	1,423,863	1,311,960
Amort. and Depl. of P. N. G. L. & L. R.	40,704	31,408	36,772	57,084	41,492
Amort. of Other Limited-Term G. I.		813	6,369	5,996	3,295
Taxes	1,318,110	1,001,688	1,227,674	2,034,284	1,395,439
Total	\$14,584,984	\$13,825,947	\$13,493,955	\$15,829,812	\$14,433,675
Examiners' Rate Adjustments					
6% Interest on Unoperated Acreage	\$ 35,063	\$ 35,063	\$ 35,063	\$ 35,063	\$ 35,063
Exploration and Development Costs	501,076	612,242	500,344	407,920	505,395
Amortization of Property Reclassification and River Rate Expenditures	125,000	125,000	125,000	125,000	125,000
Other Revenue	(85,260)	(62,643)	(68,695)	(107,171)	(80,943)
Adjustment of Federal Income Taxes	(282,315)	(17,515)	(191,521)	(912,313)	(350,916)
Adjustment of Gas Plant Held for Future Use				6,619	1,655
Revenue from West Virginia Sales	(2,697,396)	(2,019,825)	(2,329,716)	(2,696,120)	(2,435,764)
Total Examiner's Rate Adjustments	\$(2,403,832)	\$(1,327,680)	\$(1,929,525)	\$(3,141,002)	\$(2,200,510)
Net Operating Income from Interstate Sales	\$ 3,629,459	\$ 1,278,797	\$ 3,302,464	\$ 6,607,945	\$ 3,704,666
Rate of Return Earned	12.18%	4.29%	11.34%	22.41%	12.53%

() Denote red figures.

24. TESTIMONY OF COMPANY WITNESS LORING L. TONKIN AS TO ABILITY OF THE COMPANY TO MEET WAR DEMANDS, SATURDAY, JULY 12, 1941, RECORD PAGES 5764 TO 5771.

—5764—

By Mr. Cockley:

Q. Mr. Tonkin, have you in mind any other capital expenditures made by the Hope Company during these years other than those set forth in these, as related directly to your present production, transmission, and general property as set forth in this exhibit? A. Yes, we have. These would be our normal expenditures, but we have in mind, as I told you, on this year's budget, I had another \$100,000 that I haven't had approved, but I have already authorized the expenditure.

We are finding ourself in a rather peculiar situation. Our normal sales of gas of the Hope system go around

—5765—

52,000,000,000 feet of gas a year. I think around 51,500,000,000. The average for the last 10 years has been slightly under 50,000,000,000 feet, and that has been running along for years.

You take the 20 year average. We have settled in our own mind that a normal year for the Hope Company is right around 52,000,000,000 feet sales.

Now, we come to the point where our sales in 1940, due largely to increase in industrial sales due to the emergency for the preparedness program, have jumped very rapidly, far beyond what we could have anticipated for gas reserves and gas supplies.

In other words, in 1940 we sold approximately 65,000,000,000 feet compared to a normal year of less than 52,000,000,000.

Q. Now, you are not including in any of these figures the sales by the old Reserve Company? A. Anything I am talking about today does not include anything in the Reserve Gas Company property.

Q. All right. A. As I say, in 1940 we actually sold almost 65,000,000,000 feet. Just slightly under 65,000,000,000, and in 1941 it looks like we are going to sell in excess of 70,000,000,000 feet.

Now, when you jump from 52,000,000,000 to 70,000,

—5766—

000,000, within a year and a half, or two years, you might say, you are drawing on your reserves more than we could have foreseen several years ago and, therefore, we have to do something else to replace that if we are going to take care of our customers.

Q. Is it possible for you to replace that gas in West Virginia? A. It is not.

Q. What is going to be your situation as to supply in West Virginia, assuming that that demand that you have spoken of is maintained? A. Well, the supply in West Virginia is at its peak right now as far as any gas the Hope Company can get its hands on.

The Oriskany field in Kanawha county, rock pressure is dropping off.

This summer we have not been able to get accurate figures on it, but I would say the rock pressure was dropping off from a pound and a half to two pounds a day in the Oriskany field in Kanawha county.

Everybody is drawing on it. We are drawing very heavily on it, United Fuel and other people.

—5767—

Q. What do you estimate you will get out of the Oriskany Field this coming winter? A. We expect to get probably 72, maybe 75 million feet of gas a day out of that Oriskany Field in Kanawha County.

Q. You mean a peak delivery of approximately that?

A. No. We are taking better than 80 million right today out of it.

Q. This coming winter you expect that to drop to 72 million? A. That will drop to 72, and we hope it will hold up to 75.

Q. And how much can you count on for the following winter? A. The following winter the best we can judge—we have had our superintendents out watching the decline all around—and we will not get out of that field, in my estimation, over 30 or 35 million feet a day the year after this winter we are coming to.

Q. Now, Mr. Tonkin, what is your solution of this problem? A. Well, the solution of the problem—and we have already started on it—and that is where my hundred thousand dollars comes in—we have started a survey from Cornwell Station down through that part of West Virginia,

—5768—

southern West Virginia, through the entire state of Kentucky, the entire state of Tennessee, the entire state of Mississippi, the corner of Arkansas, in northern Louisiana, with a survey. We have eleven crews on the job now and have been on the job since early in May.

The survey is either half or a little over half completed. Right of way crews are right with the surveyors, and we are for a prospective line to Louisiana, making that survey and later drawing on the fields—that is, northern Louisiana; I am speaking of Monroe, Louisiana, field—and later drawing on the gas from East Texas and the Gulf Coast of Louisiana, where there are enormous resources of gas in that region.

Q. Well, how far, at present, are you contemplating building that line? A. The line will be approximately 826 miles long, 20 inches in diameter and built for high pressure.

Q. Built for high pressure? A. Yes.

Q. And what do you estimate that line will cost? A. Approximately 25 million dollars, if we stop at Monroe, Louisiana, field.

Q. And that includes, I presume, the compressor stations and the other appliances that are necessary to put

—5769—

the line into effect. A. That includes the compressor stations, the five relay stations, and one field station on that line, a total of six at the present time.

Q. Will you tell me what the fact is as to whether or not you are building that line in order to serve markets other than those that you are now serving, your company and your affiliated companies? A. No. We are building that line to serve the markets of our customers. The fact of the matter is we have been thinking of this line for some time, but we did not think we would have to build it for another five years, but this severe demand upon us, that we have struck in the last year and a half, you might say, and apparently is continuing on through '41, due to the emergency of the preparedness program, has drawn down on our reserves for peak loads, I might say—that we find that we have got to jump ahead of ourselves if we are going to supply our customers.

In other words, we have been through this period once before. After the last world war, during the world war and shortly after, we had enormous demands upon the Hope Company for a supply of gas, due chiefly to industrial war demands, you might say.

We depleted our reserves very rapidly in those days and from 1919 to 1925 we had to spend, on account of this depletion, or the lessening of our ability to deliver—as

—5770—

maybe you better word it—we had to spend between 7½ to 8 million dollars over and above our normal capital expenditures, to go to southern West Virginia, to replenish our gas supply.

Now, that was caused by depleting our supplies, due to the war period.

Now we are facing identically the same thing today. If this emergency keeps up we are going to have to do something but the supplies are not available in West Virginia. Therefore we have investigated Kentucky.

There is a lot of shale gas down there and we have had our geologists down there.

Mr. Tollefson has been down there, and we have had other men down there, and there is not enough gas available in Kentucky at a reasonable price.

In other words, we figure it will cost us more to get it up from Kentucky than it will from Louisiana, so Mr. Tollefson has been many weeks in Louisiana investigating it with other geologists, and we have decided that, if this emergency keeps up the only thing to do is to go on through to Louisiana with the idea of later drawing on East Texas and Southern Louisiana for gas.

Q. At the present time the reserves in Louisiana are ample for— A. (Interposing) At the present time,

—5771—

around in the Monroe field, they are ample for a few years, but eventually we would have to receive gas from East Texas and southern Louisiana, where the reserves are— well, they are as big as the ocean, I guess.